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DATA BOOK
SPACE STATION/BASE FOOD SYSTEM STUDY
BOOK III
STUDY SELECTION RATIONALE SHEETS

Prepared for
NATIONAL AERONAUTICS and SPACE ADMINISTRATION

Manned Spacecraft Center
Houston, Texas 77058

Contract NAS9-11139
DRL Line Item No.12

Prepared by
Manned Space Systems


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ABSTRACT

The Fairchild Hiller Corporation, Republic Aviation Division, performed a seven-month study under Contract Number NAS9-11139 entitled "Space Station/Base Food System Study" for the National Aeronautics and Space Administration, Manned Spacecraft Center. The study was conducted so as to identify and define engineering data for a spectrum of possible items and equipment comprising potential food systems for use on manned spacecraft and assemble these data in a Final Report and Data Book.

This document is Book III of the Data Book. The Data Book, containing the detailed technical data, supporting analysis, and selection rationale for each of the concepts considered in the Final study, has been prepared in three books:

Book I - Element Concept Data Sheets

This book contains the detail engineering data sheets for all concepts studied in the Final phase of the contract effort as well as those concept sheets only carried through the Interim phase due to non-applicability or deleted missions.

Book II - Supporting Technical Data

This book contains formulae, assumptions, calculations, and supporting analyses for the element concept data sheets.

Book III - Study Selection Rationale Sheets

This book contains the supporting rationale sheets utilized in selection and support of those concepts studied in the Final phase of the contract.

The results of the study have been compiled in the Final Report - Volumes I and II, which contain the documentation and summary of the contract effort.

The program was performed under the technical direction of Mr. Dean Glenn, Habitability Technology/Spacecraft Design Office of the Manned Spacecraft Center.

SECTION I

INTRODUCTION AND SUMMARY

The study selection rationale sheets support the concept study/discard decisions reached at the conclusion of the Interim phase of the contract effort. Each concept, conceived to fulfill a specific function of the food system, was assessed in terms of the eight critical factors depicted on the rationale sheet. When weighted and totaled, the resulting selection factor was used as a guide in making the final decision. In certain cases, engineering judgment was used to override a number and continue or discard a concept in the Final study. The selection rationale should be utilized primarily as a tool to assist the designer in assessing the overall validity of a concept and should not be considered as the ultimate test for the worth of the concept.

SECTION II

SELECTION RATIONALE

A. SYSTEM

Each concept conceived to satisfy the requirements of the primary functional areas comprising a food system was evaluated during the Initial and Interim study for possible detailed study in the Final phase of the contract effort. The concepts were numbered in accordance with their functional area, and then analyzed utilizing a quantitative evaluation and selection rationale. If the concept met the acceptance criteria rating of 9.0 or better, it was selected for more detail study during the Final phase, unless some overriding consideration dictated no further study.

B. FORM AND INSTRUCTION

Figure II-1 is a copy of the Concept Selection Rationale Sheet utilized and the instructions for its use.

C. RATIONALE SHEETS

The selection rationale sheets are presented herein by functional area and provide a complete listing of all researched and original concepts conceived during the course of the study. No constraints were imposed on the study group personnel in developing original concepts other than reasonable mechanical and physical feasibility. Each concept is described in detail and a technical analysis rationale provided in Volume I of the Final Report. The rationale for any overriding decisions is also explained in the technical analysis. As an example, for Concept 1.1.18 - Crewman Modification, the selection factor was 10.2, which would indicate further study. In the technical analysis rationale of Volume I - Final Report, a description of this concept indicates the reasons for discarding it from further study. Finally, it should be noted that no selection rationale sheets were prepared for Functional Subsystem Area 7.0 - Provide For Recording of Food, due to the joint NASA/Contractor decision to study overall requirements rather than specific equipment concepts. These requirements are reviewed in detail in Final Report, Volume I, Section III, paragraph 7.0.

Concept No. Title		SELECTION RATIONALE Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.	Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3			
2	Crew Acceptability Factor		3			
3	Safety Factor		2			
4	Crew Size Acceptability Factor		1			
5	Development Risk Factor		3			
6	Operability Factor		1			
7	Crew Time Factor		2			
8	System Compatibility Factor		4			

Sum

Sum

FINAL SELECTION FACTOR
 = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) or STUDY (> 9)

Figure II-1. Concept Selection Rationale Sheet

INSTRUCTIONS: CONCEPT SELECTION RATIONALE SHEET

A quantitative rationale was established in order to document the selection for further study of the various concepts listed for each functional food category; i.e., provide, serve, consume food, etc. The rationale considers the following parameters, all or part of which affect the stated concepts to some extent:

- 1) Gravitational Effect: This parameter is employed to consider the gravitational effect on a particular concept for a range of station operability between zero-g to one-g.
- 2) Crew Acceptability: This is a measure of the anticipated crew acceptability for a concept; the rating ranges from excellent, to good, fair, poor, and not acceptable. As applicable, crew acceptability criteria is considered for such elements as: sensory input (sight, smell, etc.); familiarity; task complexity, meniality, or boredom; esthetics; and confidence.
- 3) Safety: A measure of the condition (of the particular item or concept) of being safe from causing hurt, injury, loss, or inactivity. The rating ranges from excellent, to good, fair, and poor or hazardous.
- 4) Crew Size Applicability: A measure of the effect of crew size, ranging to a station complement of 50 on the particular item or concept. This parameter considers the effect based on quantity; a concept, for instance, considered for a six-man station may be more (or less) effective than such a concept for a fifty-man station.
- 5) Development Risk: This parameter considers the status of a particular concept and ranges from what is available or current state-of-the-art, to various magnitudes of effort required to fully develop the concept for space station usage. Since concept complexity, development time, and required development funding are closely related, the parameter has been established from a consideration of one of these; namely, development time. The time period from the present to the anticipated station availability of 1978, or a development period covering eight years, has been used.
- 6) Operability: This parameter pertains to the product of two factors related to the reliability and maintainability of the particular concept. Reliability is scaled from a low to high ranking, and maintainability is assumed to range from complex to simple maintenance task requirements.
- 7) Crew Time: A measure of crew time requirements for a particular concept, ranging from maximum to minimum. The scale ranges from minimal time requirements through low, medium, and high usage of crew time to accomplish a functional task.

Figure II-1. Concept Selection Rationale (continued)

- 8) System Compatibility: This parameter pertains to the product of three prime systems considerations; namely, the weight, volume, and power requirements for each concept under consideration. The effect of weight is considered twice that of volume since the launch weight of the station (and/or resupply weight) is considered to govern, rather than the volumetric constraint of the station. Since power requirements are more closely related to weight, than are volume requirements for the station, this sub-parameter of the system compatibility factor has been assumed of 20% greater importance than volume.

In order to normalize the eight parameters, the following multipliers (or effective weights) have been established. The list, for example, shows that "System Compatibility" is considered to have twice the impact on selection as "Crew Time".

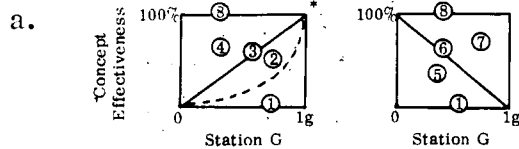
	<u>Parameter</u>	<u>Multiplier</u>
1)	Gravitational Effect	3
2)	Crew Acceptability	3
3)	Safety	2
4)	Crew Size	1
5)	Development Risk	3
6)	Operability	1
7)	Crew Time	2
8)	System Compatibility	4

It is to be noted that although Safety may appear to be ranked too low, thus of not sufficient emphasis, this parameter primarily reflects the relative ranking prior to the final selection of a concept. Once a concept is selected for space station use it most certainly must evolve to be as safe as possible; prior to that, however, the weighting of safety must be considered in light of all other parameters. More development or crew time, for instance, could readily turn a poor safety item into one exhibiting excellent safety characteristics.

Graphs, presenting the particular criteria for each parameter, have been produced to establish a set of factors which are employed in the concept selection process. The factors for each parameter range, in general, from zero to a value of eight. For the two parameters in which products are used (Operability and System Compatibility), the use of more readily scaled numbers produces maximum values slightly in excess of eight. The summation of the product of all factors and their appropriate multipliers gives an overall sum, which when divided by the number of parameters utilized in the process, yields the "final selection factor". This factor is then compared to a pre-selected value; a final selection factor below this value means that the concept is discarded, a factor equal to or above the selected value implies that the concept has been selected for further study.

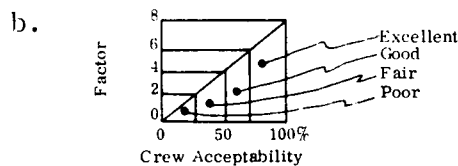
The format for the concept selection rationale is shown in the attached figure. It is to be noted that three basic types of graphs are employed; their use is clarified in the following paragraphs, taking an example of each type:

Figure II-1. Concept Selection Rationale (continued)



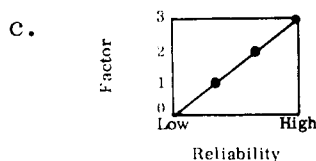
Example: Examine the concept of drinking liquid from a standard cup, considering the effect of gravitational forces.

First, from an examination of the charts at point $g = 0$, it is determined that the left hand graph is applicable since for a non-spinning station (zero-g) the concept is low on the effectivity scale at that point. Secondly, mentally construct the shape of a curve (see dotted line) which best represents the anticipated effectivity of the concept as g-forces increase. Since the curve falls within area ②, a factor of 2 is recorded in the appropriate column of the chart.



Example: Examine the concept of drinking liquid from a standard cup, considering the effect of crew acceptability.

The graph shows a linear relationship between crew acceptability and rating factor, and gives the investigator a choice of two ways to obtain the factor. In the first case, if one anticipates that 3 out of 6 crew members (50%) could find the concept acceptable (as opposed to unacceptable), then a factor of 4 is obtained. The more standard way would be to consider how the average crew member would view the concept, a ranking of "poor" would at its highest range also yield a factor of 4. The poor rating for this concept is based on the fact that although a drinking cup is standard for terrestrial use, it must be considered (1) in light of the overall station usage (which is oriented primarily towards zero-g applicability), and (2) in comparison with other recommended concepts for this task.



This graph shows a linear relationship between reliability and the rating factor. Since this and other graphs of this type are employed where the product of two or more chart factors are taken, discrete points are established between (in this case) low and high ratings, in order to simplify the procedure. A low rating gives a factor of either 0 or 1; a high rating 2 or 3; and an intermediate reliability rating of either 1 or 2.

Figure II-1. Concept Selection Rationale (concluded)

FUNCTIONAL SUBSYSTEM AREA 1.0

PROVIDE FOR FOOD

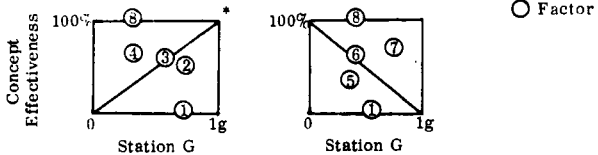
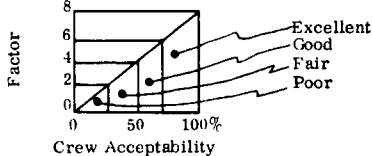
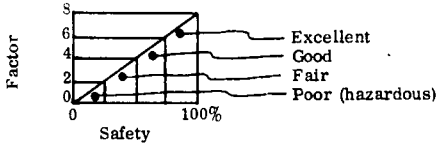
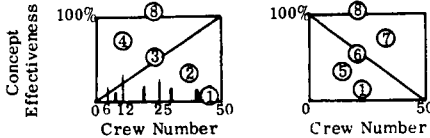
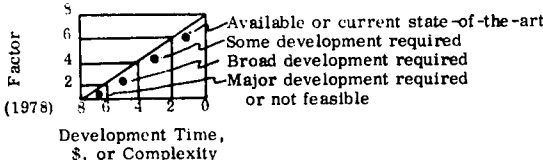
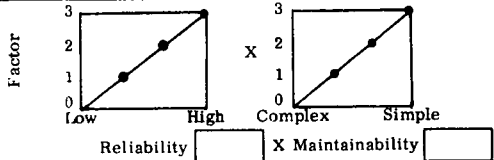
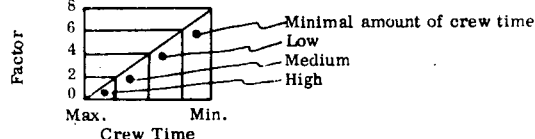
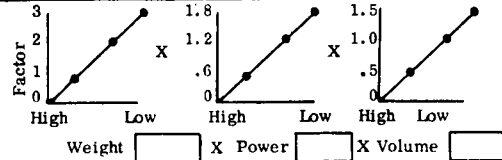
FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **1.1.1**

Title **FRESH PERISHABLE**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor 	3	0	0	0
2	Crew Acceptability Factor 	3	8	24	1
3	Safety Factor 	2	3	6	1
4	Crew Size Acceptability Factor 	1	1	1	1
5	Development Risk Factor 	3	2	6	1
6	Operability Factor 	1	1	1	1
7	Crew Time Factor 	2	0	0	1
8	System Compatibility Factor 	4	.9	3.6	1

FINAL SELECTION FACTOR **(6.0)** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{41.6}{7}$

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

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SELECTION RATIONALE

Concept No. **1.1.2**

Title :

FROZEN UNPROCESSED

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	0	0	0
2	Crew Acceptability Factor		3	7	21	1
3	Safety Factor		2	5	10	1
4	Crew Size Acceptability Factor		1	6	6	1
5	Development Risk Factor		3	7	21	1
6	Operability Factor		1	2	2	1
7	Crew Time Factor		2	2	2	1
8	System Compatibility Factor		4	1.8	7.2	1

FINAL SELECTION FACTOR

(9.8)

$$= \frac{(\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

69.2

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY

(> 9)



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SELECTION RATIONALE

Concept No. **1.1.3**

Title:

FROZEN PROCESSED

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	0	0	0
2	Crew Acceptability Factor		3	7	21	1
3	Safety Factor		2	5	10	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	7	21	1
6	Operability Factor		1	2	2	1
7	Crew Time Factor		2	8	16	1
8	System Compatibility Factor		4	1.2	4.8	1

FINAL SELECTION FACTOR

11.8

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

82.8

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD (≤ 9) ☐

or

STUDY (> 9) ☒

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SELECTION RATIONALE

Concept No. 1.1.4

Title:
INTERMEDIATE MOISTURE

Select appropriate curve representation, then use corresponding factor.
 * Estimate shape of curve and use the corresponding section number into which the curve falls.
 ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	0	0	0
2	Crew Acceptability Factor		3	3	9	1
3	Safety Factor		2	8	16	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	4	12	1
6	Operability Factor		1	9	9	1
7	Crew Time Factor		2	8	16	1
8	System Compatibility Factor		4	5.4	21.6	1

FINAL SELECTION FACTOR 13.0 = $\frac{\text{Sum (Mult x Factor)}}{\text{Number of Charts Used}}$ = $\frac{91.6}{7}$

INTERIM STUDY SELECTION: DISCARD ☐ (≤ 9) or STUDY ☒ (> 9)

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Concept No. **1-1-5**

Title:
THERMO STABILIZED

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	0	0	0
2	Crew Acceptability Factor		3	5	15	1
3	Safety Factor		2	8	16	1
4	Crew Size Acceptability Factor		1	4	4	1
5	Development Risk Factor		3	6	18	1
6	Operability Factor		1	9	9	1
7	Crew Time Factor		2	8	16	1
8	System Compatibility Factor		4	1.7	6.8	1

FINAL SELECTION FACTOR

12.1

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}} =$$

84.8

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD ☐ (≤ 9)

or

STUDY ☒ (> 9)

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SELECTION RATIONALE

Concept No. **1-1-6**

Title: **AIR DEHYDRATED**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	0	0	0
2	Crew Acceptability Factor		3	2	6	1
3	Safety Factor		2	8	16	1
4	Crew Size Acceptability Factor		1	6	6	1
5	Development Risk Factor		3	7	21	1
6	Operability Factor		1	9	9	1
7	Crew Time Factor		2	6	12	1
8	System Compatibility Factor		4	7.2	28.8	1

FINAL SELECTION FACTOR

14.1

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

98.8

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD ☐ (≤ 9)

or

STUDY ☒ (> 9)

Concept No. 1.1.7 Title: COMPRESSED		SELECTION RATIONALE				Multiplier	Factor	Mult x Factor	Chart Use
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.							
1	Gravitational Factor					3	0	0	0
2	Crew Acceptability Factor					3	2	6	1
3	Safety Factor					2	8	16	1
4	Crew Size Acceptability Factor					1	6	6	1
5	Development Risk Factor					3	6	18	1
6	Operability Factor					1	9	9	1
7	Crew Time Factor					2	6	12	1
8	System Compatibility Factor					4	7.2	28.8	1

FINAL SELECTION FACTOR

13.7

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

95.8

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD ☐ (≤ 9)

or

STUDY ☒ (> 9)

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SELECTION RATIONALE

Concept No. **1-1-8**

Title :
FREEZE DEHYDRATED

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	0	0	0
2	Crew Acceptability Factor		3	5	15	1
3	Safety Factor		2	8	16	1
4	Crew Size Acceptability Factor		1	6	6	1
5	Development Risk Factor		3	7	21	1
6	Operability Factor		1	9	9	1
7	Crew Time Factor		2	6	12	1
8	System Compatibility Factor		4	4.8	19.2	1

FINAL SELECTION FACTOR

14.0

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

98.2

7

Sum

Sum

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

Concept No. 1. 1. 9 Title : DEHYDROFROZEN		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor	Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		3	0	0	0
2	Crew Acceptability Factor			3	6	18	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	6	6	1
5	Development Risk Factor			3	6	18	1
6	Operability Factor			1	2	2	1
7	Crew Time Factor			2	5	10	1
8	System Compatibility Factor			4	1.6	6.4	1

FINAL SELECTION FACTOR **10.3**
 = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$
 = $\frac{72.4}{7}$

INTERIM STUDY SELECTION: DISCARD ☐ (≤ 9) or STUDY ☒ (> 9)

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SELECTION RATIONALE

Concept No. **1.1.10**

Title:

IRRADIATED

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	0	0	0
2	Crew Acceptability Factor		3	6	18	1
3	Safety Factor		2	7	14	1
4	Crew Size Acceptability Factor		1	6	6	1
5	Development Risk Factor		3	5	15	1
6	Operability Factor		1	6	6	1
7	Crew Time Factor		2	5	10	1
8	System Compatibility Factor		4	1.6	6.4	1

FINAL SELECTION FACTOR

10.7

$\frac{\text{(Mult x Factor)}}{\text{Number of Charts Used}}$

75.4

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(< 9)

or

STUDY
(> 9) ☒

SELECTION RATIONALE

Concept No. **1-1-11**

Title :

ALGAE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	2	6	1
2	Crew Acceptability Factor		3	0	0	1
3	Safety Factor		2	0	0	1
4	Crew Size Acceptability Factor		1	1	1	1
5	Development Risk Factor		3	1	3	1
6	Operability Factor		1	0	0	1
7	Crew Time Factor		2	1	2	1
8	System Compatibility Factor		4	.5	2	1

FINAL SELECTION FACTOR

1.7

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

14

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD ☒ (≤)

or STUDY ☐ (>)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **1.1.12**

Title :

LIVE ANIMAL

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	1.5	4.5	1
2	Crew Acceptability Factor	3	7	21	1
3	Safety Factor	2	2	4	1
4	Crew Size Acceptability Factor	1	2	2	1
5	Development Risk Factor	3	2	6	1
6	Operability Factor	1	3	3	1
7	Crew Time Factor	2	0	0	1
8	System Compatibility Factor	4	1.2	4.8	1

FINAL SELECTION FACTOR

5.6

(Mult x Factor)
Number of Charts Used

45.3

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY
(> 9)



FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **1.1.13**

Title: **FORMULA**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	0	0	0
2	Crew Acceptability Factor	3	1	3	1
3	Safety Factor	2	7	14	1
4	Crew Size Acceptability Factor	1	7	7	
5	Development Risk Factor	3	6	18	1
6	Operability Factor	1	9	9	1
7	Crew Time Factor	2	8	16	1
8	System Compatibility Factor	4	1	4	1

FINAL SELECTION FACTOR

(10.1)

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

71

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY

(> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **1-1-14**

Title: **BIOREGENERATIVE**

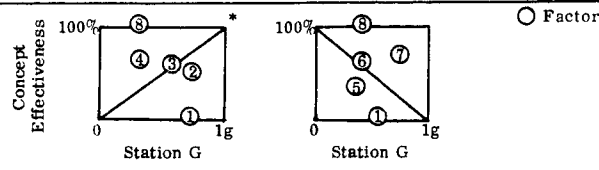
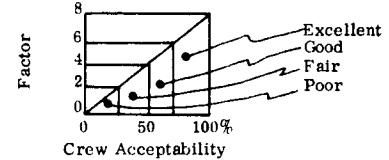
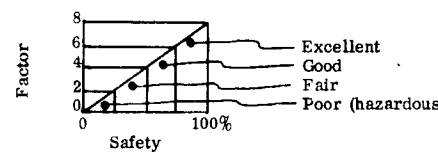
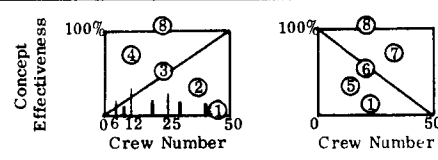
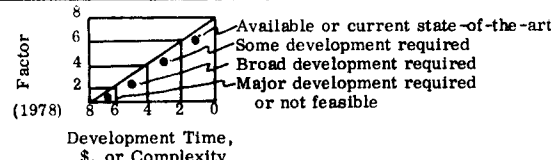
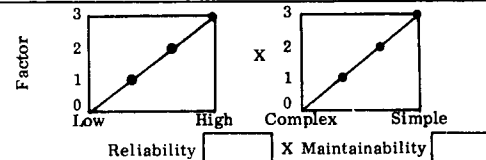
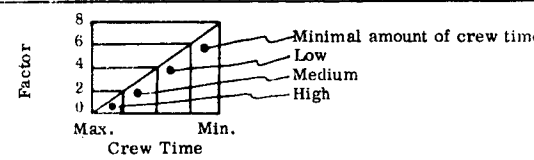
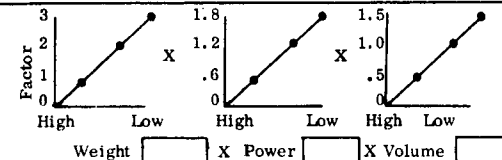
Select appropriate curve representation, then use corresponding factor.
 * Estimate shape of curve and use the corresponding section number into which the curve falls.
 ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	Chart Use
1	Gravitational Factor		3	2	6	1
2	Crew Acceptability Factor		3	7	21	1
3	Safety Factor		2	0	0	1
4	Crew Size Acceptability Factor		1	1	1	1
5	Development Risk Factor		3	0	0	1
6	Operability Factor		1	0	0	1
7	Crew Time Factor		2	0	0	1
8	System Compatibility Factor		4	0	0	1

FINAL SELECTION FACTOR **3.5** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{28}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☒ or STUDY (> 9) ☐

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

Concept No. 1.1.15 Title LIVE PLANT (PHOTOSYNTHETIC)		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					
1	Gravitational Factor			3	1	3	1
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	3	6	1
4	Crew Size Acceptability Factor			1	1	1	1
5	Development Risk Factor			3	0	0	1
6	Operability Factor			1	0	0	1
7	Crew Time Factor			2	0	0	1
8	System Compatibility Factor			4	.6	2.4	1

FINAL SELECTION FACTOR **4.1** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{33.4}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **1-1-16**

Title: **LIVE FISH AND SHELLFISH**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	1	3	1
2	Crew Acceptability Factor	3	7	21	1
3	Safety Factor	2	0	0	1
4	Crew Size Acceptability Factor	1	1	1	1
5	Development Risk Factor	3	0	0	1
6	Operability Factor	1	0	0	1
7	Crew Time Factor	2	0	0	1
8	System Compatibility Factor	4	.6	2.4	1

FINAL SELECTION FACTOR

3.4

$\frac{\text{Sum (Mult x Factor)}}{\text{Number of Charts Used}}$

27.4

8

INTERIM STUDY SELECTION:

DISCARD

(≤ 9)



or

STUDY

(> 9)



SELECTION RATIONALE

Concept No. **1.1.17**

Title: **INTRAVENOUS**

Select appropriate curve representation, then use corresponding factor.
 * Estimate shape of curve and use the corresponding section number into which the curve falls.
 ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor	3	2	6	1
2	Crew Acceptability Factor	3	0	0	1
3	Safety Factor	2	0	0	1
4	Crew Size Acceptability Factor	1	1	1	1
5	Development Risk Factor	3	7	21	1
6	Operability Factor	1	4	4	1
7	Crew Time Factor	2	7	14	1
8	System Compatibility Factor	4	3.2	12.8	1

Sum

FINAL SELECTION FACTOR **7.3** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}} = \frac{58.8}{8}$

Sum

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **1.1.18**

Title:
CREWMAN MODIFICATION

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	0	0	0
2	Crew Acceptability Factor	3	0	0	1
3	Safety Factor	2	2	4	1
4	Crew Size Acceptability Factor	1			0
5	Development Risk Factor	3	3	9	1
6	Operability Factor	1	2	2	1
7	Crew Time Factor	2	7	14	1
8	System Compatibility Factor	4	8.1	32.4	1

FINAL SELECTION FACTOR

(10.2)

$\frac{\text{Sum (Mult x Factor)}}{\text{Number of Charts Used}}$

61.4

6

INTERIM STUDY SELECTION: DISCARD ☒ or STUDY ☐

Concept No. **1.1.19**
Title: **EDIBLE STRUCTURE AND EQUIPMENT**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	Chart Use
1	Gravitational Factor		3	0	0	0
2	Crew Acceptability Factor		3	0	0	1
3	Safety Factor		2	1	2	1
4	Crew Size Acceptability Factor		1	7	7	1
5	Development Risk Factor		3	3	9	1
6	Operability Factor		1	2	2	1
7	Crew Time Factor		2	7	14	1
8	System Compatibility Factor		4	8.1	32.4	1

Sum

FINAL SELECTION FACTOR **(9.5)** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{66.4}{7}$

Sum

INTERIM STUDY SELECTION: DISCARD ☒ or STUDY ☐

SELECTION RATIONALE

Concept No. **1. 2. 1**

Title: **COMPLETE INDIVIDUAL MEAL PREPARED FROM PRIMARY MEAL COMPONENTS**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	0	0	0
2	Crew Acceptability Factor		3	7	21	1
3	Safety Factor		2	5	10	1
4	Crew Size Acceptability Factor		1	5	5	1
5	Development Risk Factor		3	6	18	1
6	Operability Factor		1	4	4	1
7	Crew Time Factor		2	6	12	1
8	System Compatibility Factor		4	3	12	1

FINAL SELECTION FACTOR

11.5

$\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$

82.

7

Sum

Sum

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

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REPUBLIC AVIATION DIVISION

Concept No. **1. 2. 2**

Title **BULK MEAL
PACKAGING ASSEMBLED
IN SPACE FROM PRIMARY
COMPONENTS**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
• Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	0	0	0
2	Crew Acceptability Factor		3	8	24	1
3	Safety Factor		2	5	10	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	3	9	1
6	Operability Factor		1	4	4	1
7	Crew Time Factor		2	1	2	1
8	System Compatibility Factor		4	8	32	1

FINAL SELECTION FACTOR

12.6

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

89.

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD ☐ (≤ 9)

or

STUDY ☒ (> 9)

SELECTION RATIONALE

Concept No. **1. 2. 3**

Title **COMPLETE INDIVIDUAL MEALS PREPARED FROM PRIMARY AND SECONDARY COMPONENTS**

Select appropriate curve representation, then use corresponding factor.
 * Estimate shape of curve and use the corresponding section number into which the curve falls.
 ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	Chart Use
1	Gravitational Factor	3	0	0	0
2	Crew Acceptability Factor	3	6	18	1
3	Safety Factor	2	5	10	1
4	Crew Size Acceptability Factor	1	5	5	1
5	Development Risk Factor	3	6	18	1
6	Operability Factor	1	4	4	1
7	Crew Time Factor	2	8	16	1
8	System Compatibility Factor	4	3	12	1

FINAL SELECTION FACTOR

(11.7)

$\frac{\text{Sum (Mult x Factor)}}{\text{Number of Charts Used}}$

83

7

Sum

Sum

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

Concept No. **1.2.4**
Title: **EDIBLE PACKAGES**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	0	0	0
2	Crew Acceptability Factor		3	0	0	1
3	Safety Factor		2	1	2	1
4	Crew Size Acceptability Factor		1	0	0	1
5	Development Risk Factor		3	5	15	1
6	Operability Factor		1	2	2	1
7	Crew Time Factor		2	7	14	1
8	System Compatibility Factor		4	8	32	1

FINAL SELECTION FACTOR **(9.2)** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{65}{7}$

INTERIM STUDY SELECTION: DISCARD ☒ or STUDY ☐

SELECTION RATIONALE

Concept No. **1. 2. 5**

Title: **SOLUBLE PACKAGES**

Select appropriate curve representation. then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	Chart Use
1	Gravitational Factor		3	0	0	0
2	Crew Acceptability Factor		3	8	24	1
3	Safety Factor		2	3	6	1
4	Crew Size Acceptability Factor		1	7	7	1
5	Development Risk Factor		3	5	15	1
6	Operability Factor		1	4	4	1
7	Crew Time Factor		2	7	14	1
8	System Compatibility Factor		4	8	32	1

FINAL SELECTION FACTOR

14.5

$\frac{\text{(Mult x Factor)}}{\text{Number of Charts Used}}$

102

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD

(≤ 9)

☐

or

STUDY

(> 9)

☒

SELECTION RATIONALE

Concept No. **1. 2. 6**

Title: **NO PACKAGE**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	0	0	0
2	Crew Acceptability Factor		3	0	0	1
3	Safety Factor		2	0	0	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	4	12	1
6	Operability Factor		1	2	2	1
7	Crew Time Factor		2	8	16	1
8	System Compatibility Factor		4	8	32	1

FINAL SELECTION FACTOR

(10)

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

70

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY
(> 9)



SELECTION RATIONALE

Concept No. **1.2.7**

Title: **HEATABLE PACKAGES**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	8	24	1
2	Crew Acceptability Factor		3	7	21	1
3	Safety Factor		2	7	14	1
4	Crew Size Acceptability Factor		1	6	6	1
5	Development Risk Factor		3	3	9	1
6	Operability Factor		1	6	6	1
7	Crew Time Factor		2	7	14	1
8	System Compatibility Factor		4	2	8	1

FINAL SELECTION FACTOR

12.7

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

102

8

Sum

Sum

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

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REPUBLIC AVIATION DIVISION

Concept No. 1. 2. B Title: CONVENTIONAL PACKAGE		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					Chart Use
1	Gravitational Factor		○ Factor	3	0	0	0
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	7	14	1
4	Crew Size Acceptability Factor			1			0
5	Development Risk Factor			3	8	24	1
6	Operability Factor			1	6	6	1
7	Crew Time Factor			2	7	14	1
8	System Compatibility Factor			4	.6	2.4	1

FINAL SELECTION FACTOR

13.5

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

81.4

6

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD ☐ (≤ 9)

or

STUDY ☒ (> 9)

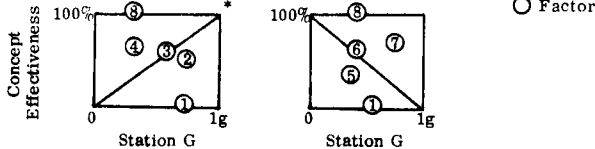
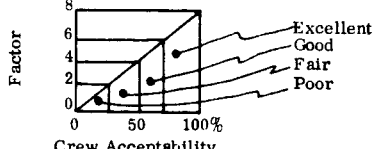
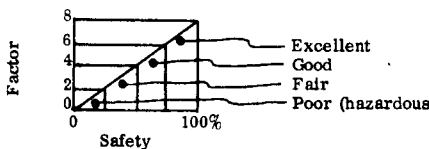
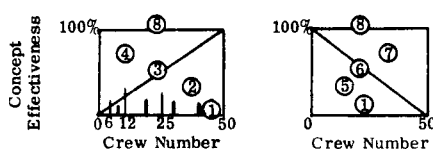
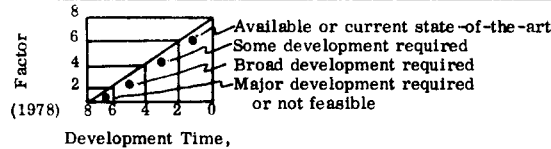
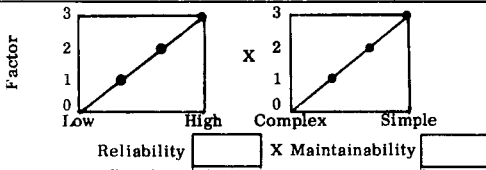
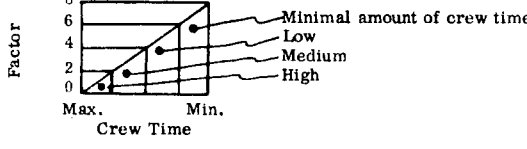
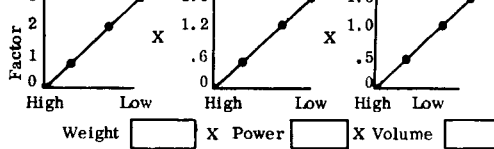
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REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **1.2.9**

Title: **STORAGE/SERVICE PACKAGE**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

1	Gravitational Factor		3	0	0	0
2	Crew Acceptability Factor		3	7	21	1
3	Safety Factor		2	7	14	1
4	Crew Size Acceptability Factor		1	1	1	1
5	Development Risk Factor		3	5	15	1
6	Operability Factor		1	6	6	1
7	Crew Time Factor		2	7	14	1
8	System Compatibility Factor		4	.3	1.2	1

FINAL SELECTION FACTOR

10.3

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

72.2

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)

☐

or

STUDY
(> 9)

☒

SELECTION RATIONALE

Concept No. **1. 2. 10**

Title: **CASSEROLES**

Select appropriate curve representation, then use corresponding factor.
 * Estimate shape of curve and use the corresponding section number into which the curve falls.
 ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	0	0	0
2	Crew Acceptability Factor		3	7	21	1
3	Safety Factor		2	7	14	1
4	Crew Size Acceptability Factor		1	1	1	1
5	Development Risk Factor		3	5	.5	1
6	Operability Factor		1	6	6	1
7	Crew Time Factor		2	7	14	1
8	System Compatibility Factor		4	.3	1.2	1

FINAL SELECTION FACTOR

10.3

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

72.2

7

Sum Sum

INTERIM STUDY SELECTION:

DISCARD ☐ (≤ 9)

or STUDY ☒ (> 9)

FUNCTIONAL SUBSYSTEM AREA 2.0

PROVIDE FOR STORAGE OF FOOD

FUNCTIONAL SUBSYSTEM
AREA 2.0

Concept No. **2.1.1**

Title **SOLID CO₂ FREEZER**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
 * Estimate shape of curve and use the corresponding section number into which the curve falls.
 ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	3	9	1
3	Safety Factor		2	0	0	1
4	Crew Size Acceptability Factor		1	5	5	1
5	Development Risk Factor		3	6	18	1
6	Operability Factor		1	2	2	1
7	Crew Time Factor		2	1	2	1
8	System Compatibility Factor		4	1.8	7.2	1

FINAL SELECTION FACTOR

6.9

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

55.2

8

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY
(> 9)



SELECTION RATIONALE

Concept No. **2.1.2**

Title **HEAT SINK
FREEZER**

Select appropriate curve representation, then use corresponding factor.
 * Estimate shape of curve and use the corresponding section number into which the curve falls.
 ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	3	9	1
3	Safety Factor		2	5	10	1
4	Crew Size Acceptability Factor		1	1	1	1
5	Development Risk Factor		3	6	18	1
6	Operability Factor		1	0	0	1
7	Crew Time Factor		2	7	14	1
8	System Compatibility Factor		4	5.4	21.6	1

FINAL SELECTION FACTOR

10.7

$$= \frac{\text{(Mult x Factor)}}{\text{Number of Charts Used}}$$

85.6

8

INTERIM STUDY SELECTION:

DISCARD ☐ (≤ 9)

or

STUDY ☒ (> 9)

SELECTION RATIONALE

Concept No. 2.1.3 Title CRYOGENIC EXPANSION FREEZER		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor			3	4	12	1
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	1	2	1
4	Crew Size Acceptability Factor			1	2	2	1
5	Development Risk Factor			3	4	12	1
6	Operability Factor			1	1	1	1
7	Crew Time Factor			2	0	0	1
8	System Compatibility Factor			4	.9	3.6	1

FINAL SELECTION FACTOR

7.45

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

53.6

7

Sum
Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY
(> 9)



FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **2.1.4**

Title. **WATER SUBLIMATION FREEZER**

Select appropriate curve representation, then use corresponding factor.
 * Estimate shape of curve and use the corresponding section number into which the curve falls.
 ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	7	21	1
3	Safety Factor		2	7	14	1
4	Crew Size Acceptability Factor		1	7	7	1
5	Development Risk Factor		3	4	12	1
6	Operability Factor		1	2	2	1
7	Crew Time Factor		2	0	0	
8	System Compatibility Factor		4	3.6	14.4	1

FINAL SELECTION FACTOR

11.8

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

82.4

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)

☐

or

STUDY
(> 9)

☒

Concept No. 2.1.5 Title VAPOR COMPRESSION FREEZER		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	** Chart Use
Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.							
1	Gravitational Factor			3	2	6	1
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	4	4	1
5	Development Risk Factor			3	4	12	1
6	Operability Factor			1	2	2	1
7	Crew Time Factor			2	0	0	
8	System Compatibility Factor			4	.6	2.4	1

FINAL SELECTION FACTOR

8.4

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

59.4

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD

(≤ 9) ☒

or

STUDY

(> 9) ☐

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **2.1.6**

Title **SPACE RADIATOR
FREEZER**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	7	21	1
3	Safety Factor		2	6	12	1
4	Crew Size Acceptability Factor		1	7	7	1
5	Development Risk Factor		3	5	15	1
6	Operability Factor		1	2	2	1
7	Crew Time Factor		2	0	0	
8	System Compatibility Factor		4	1.8	7.2	1

FINAL SELECTION FACTOR

10.8

$\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$

76.2

7

Sum

Sum

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

Concept No. 2.1.7 Title THERMOELECTRIC FREEZER		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					
1	Gravitational Factor			3	4	12	1
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	8	16	1
4	Crew Size Acceptability Factor			1	1	1	1
5	Development Risk Factor			3	6	18	1
6	Operability Factor			1	4	4	1
7	Crew Time Factor			2	0	0	
8	System Compatibility Factor			4	.6	2.4	1

FINAL SELECTION FACTOR

10.6

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

74.4

7

Sum

INTERIM STUDY SELECTION:

DISCARD (≤ 9) ☐

or

STUDY (> 9) ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **2.1.8**

Title **TURBO-COMPRESSOR AIR CYCLE FREEZER**

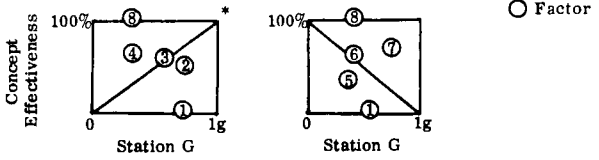
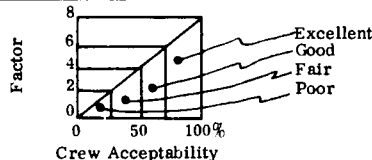
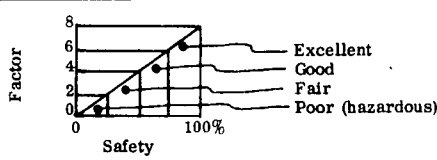
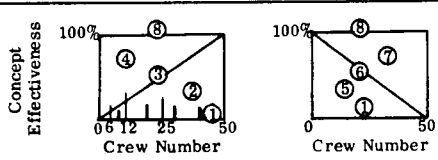
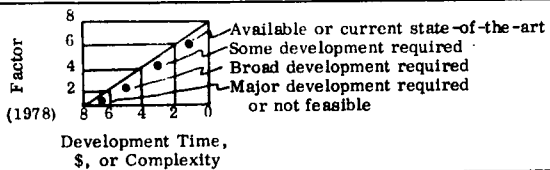
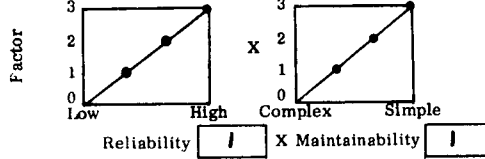
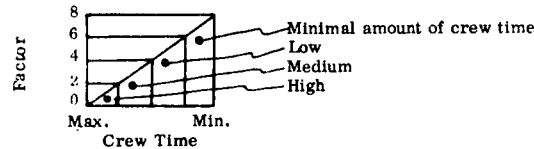
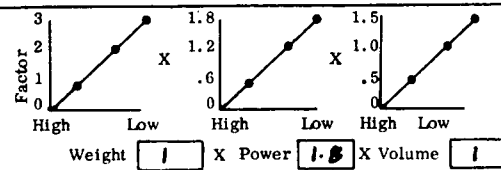
Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor	3	8	24	1
2	Crew Acceptability Factor	3	7	21	1
3	Safety Factor	2	7	14	1
4	Crew Size Acceptability Factor	1	2	2	1
5	Development Risk Factor	3	4	12	1
6	Operability Factor	1	2	2	1
7	Crew Time Factor	2	7	14	1
8	System Compatibility Factor	4	.6	2.4	1

FINAL SELECTION FACTOR

$$11.4 = \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}} = \frac{91.4}{8}$$

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

Concept No. 2.2.1 Title SOLID CO₂ REFRIGERATOR		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					Chart Use
1	Gravitational Factor			3	4	12	1
2	Crew Acceptability Factor			3	3	9	1
3	Safety Factor			2	0	0	1
4	Crew Size Acceptability Factor			1	5	5	1
5	Development Risk Factor			3	6	18	1
6	Operability Factor			1	2	2	1
7	Crew Time Factor			2	1	2	1
8	System Compatibility Factor			4	1.8	7.2	1

FINAL SELECTION FACTOR **6.9** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{55.2}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

SELECTION RATIONALE

Concept No. 2.2.2 Title HEAT SINK REFRIGERATOR		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		Factor	3	4	12	1
2	Crew Acceptability Factor			3	3	9	2
3	Safety Factor			2	5	10	1
4	Crew Size Acceptability Factor			1	1	1	1
5	Development Risk Factor			3	6	18	1
6	Operability Factor			1	0	0	1
7	Crew Time Factor			2	7	14	1
8	System Compatibility Factor			4	5.4	21.6	1

FINAL SELECTION FACTOR

10.7

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

85.6

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD ☐ (≤ 9)

or

STUDY ☒ (> 9)

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REPUBLIC AVIATION DIVISION

Concept No. 2.2.3 Title CRYOGENIC EXPANSION REFRIGERATOR		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.	3	4	12	1
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	1	2	1
4	Crew Size Acceptability Factor			1	2	2	1
5	Development Risk Factor			3	4	12	1
6	Operability Factor			1	1	1	1
7	Crew Time Factor			2	0	0	1
8	System Compatibility Factor			4	.9	3.6	1

FINAL SELECTION FACTOR

7.45

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

53.6

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY
(> 9)



SELECTION RATIONALE

Concept No. 2.2.4 Title WATER SUBLIMATION REFRIGERATOR		Select appropriate curve representation, then use corresponding factor. • Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		○ Factor	3	4	12	1
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	7	14	1
4	Crew Size Acceptability Factor			1	7	7	1
5	Development Risk Factor			3	4	12	1
6	Operability Factor			1	2	2	1
7	Crew Time Factor			2	0	0	
8	System Compatibility Factor			4	3.6	14.4	1

FINAL SELECTION FACTOR **11.8** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{82.4}{7}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

Concept No. 2.2.5 Title VAPOR COMPRESSION REFRIGERATOR		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					Chart Use
1	Gravitational Factor			3	2	6	1
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	4	4	1
5	Development Risk Factor			3	4	12	1
6	Operability Factor			1	2	2	1
7	Crew Time Factor			2	0	0	
8	System Compatibility Factor			4	.6	2.4	1

FINAL SELECTION FACTOR **8.4** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{59.4}{7}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **2. 2. 6**

Title **SPACE RADIATOR REFRIGERATOR**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor				
		3	4	12	1
2	Crew Acceptability Factor				
		3	7	21	1
3	Safety Factor				
		2	6	12	1
4	Crew Size Acceptability Factor				
		1	7	7	1
5	Development Risk Factor				
		3	5	15	1
6	Operability Factor				
		1	2	2	1
7	Crew Time Factor				
		2	0	0	
8	System Compatibility Factor				
		4	1.8	7.2	1

FINAL SELECTION FACTOR

10.8

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

76.2

7

Sum Sum

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

Concept No. **2.2.7**

Title **THERMOELECTRIC REFRIGERATOR**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Σ Mult x Factor	Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	7	21	1
3	Safety Factor		2	8	16	1
4	Crew Size Acceptability Factor		1	1	1	1
5	Development Risk Factor		3	6	18	1
6	Operability Factor		1	4	4	1
7	Crew Time Factor		2	0	0	
8	System Compatibility Factor		4	.6	2.4	1

FINAL SELECTION FACTOR **10.6** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{74.4}{7}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

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REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **2.2.B**

Title **TURBO-COMPRESSOR
AIR CYCLE REFRIGERATOR**

Select appropriate curve representation. then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	8	24	1
2	Crew Acceptability Factor	3	7	21	1
3	Safety Factor	2	7	14	1
4	Crew Size Acceptability Factor	1	2	2	1
5	Development Risk Factor	3	4	12	1
6	Operability Factor	1	2	2	1
7	Crew Time Factor	2	7	14	1
8	System Compatibility Factor	4	.6	2.4	1

FINAL SELECTION FACTOR

11.4

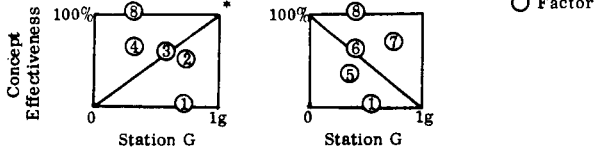
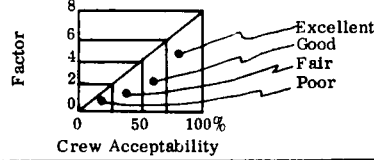
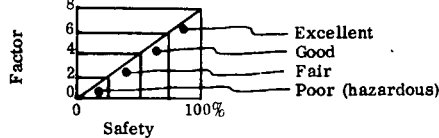
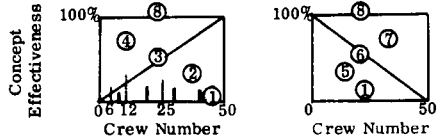
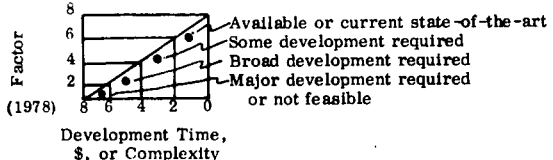
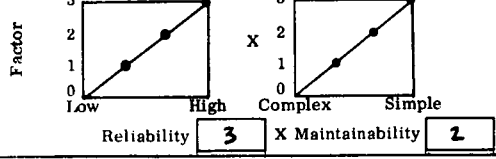
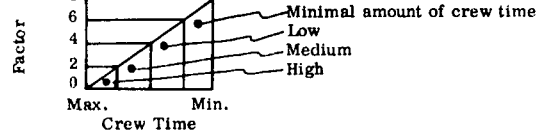
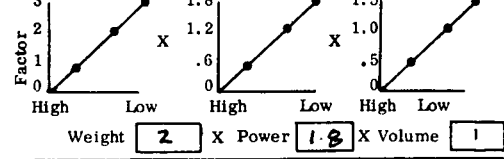
$\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$

91.4
8

Sum

Sum

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

Concept No. 2.3.1 Title AMBIENT STORAGE RIGID - CONCEPT		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					
1	Gravitational Factor			3	7	21	1
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	8	16	1
4	Crew Size Acceptability Factor			1	2	2	1
5	Development Risk Factor			3	7	21	1
6	Operability Factor			1	6	6	1
7	Crew Time Factor			2	7	14	1
8	System Compatibility Factor			4	3.6	14.4	1

FINAL SELECTION FACTOR **14.4** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{115.4}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

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SELECTION RATIONALE

Concept No. **2.3.2**

Title **AMBIENT STORAGE
FLEXIBLE CONCEPT**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor	3	7	21	1
2	Crew Acceptability Factor	3	4	12	1
3	Safety Factor	2	7	14	1
4	Crew Size Acceptability Factor	1	1	1	1
5	Development Risk Factor	3	7	21	1
6	Operability Factor	1	9	9	1
7	Crew Time Factor	2	3	6	1
8	System Compatibility Factor	4	5.4	21.6	1

FINAL SELECTION FACTOR

13.2

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

105.6

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or

STUDY
(> 9) ☒

SELECTION RATIONALE

Concept No. **2.3.3**
Title **AMBIENT STORAGE
EXTRAVEHICULAR CONCEPT**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	7	21	1
2	Crew Acceptability Factor		3	1	3	1
3	Safety Factor		2	1	2	1
4	Crew Size Acceptability Factor		1	2	2	1
5	Development Risk Factor		3	5	15	1
6	Operability Factor		1	2	2	1
7	Crew Time Factor		2	1	2	1
8	System Compatibility Factor		4	3.6	14.4	1

FINAL SELECTION FACTOR

5.3

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

42.4

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD

(≤ 9)



or

STUDY

(> 9)



FUNCTIONAL SUBSYSTEM AREA 3.0

PROVIDE FOR PREPARATION OF FOOD

FUNCTIONAL SUBSYSTEM
AREA 3.0

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. 3.1.1 Title POWER SOURCE ELECTRICAL		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor			3	8	24	1
2	Crew Acceptability Factor			3	8	24	1
3	Safety Factor			2	7	14	1
4	Crew Size Acceptability Factor			1	8	8	1
5	Development Risk Factor			3	8	24	1
6	Operability Factor			1	6	6	1
7	Crew Time Factor			2	0	0	
8	System Compatibility Factor			4	3	12	1

FINAL SELECTION FACTOR **16** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{112}{7}$

INTERIM STUDY SELECTION: DISCARD ☐ (≤ 9) or STUDY ☒ (> 9)

SELECTION RATIONALE

Concept No. **3.1.2**

Title **POWER SOURCE**
SOLAR/INTERLOOP

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put 0.

		Multiplier	Factor	Mult x Factor	**
					Chart Use
1	Gravitational Factor				
		3	4	12	1
2	Crew Acceptability Factor				
		3	4	12	1
3	Safety Factor				
		2	6	12	1
4	Crew Size Acceptability Factor				
		1	2	2	1
5	Development Risk Factor				
		3	5	15	1
6	Operability Factor				
		1	1	1	1
7	Crew Time Factor				
		2	0	0	
8	System Compatibility Factor				
		4	0	0	1

FINAL SELECTION FACTOR

7.7

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

54.0

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY
(> 9)



Concept No. 3.1.3 Title POWER SOURCE WASTE HEAT LOOP		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					
1	Gravitational Factor			3	4	12	1
2	Crew Acceptability Factor			3	4	12	1
3	Safety Factor			2	7	14	1
4	Crew Size Acceptability Factor			1	2	2	1
5	Development Risk Factor			3	5	15	1
6	Operability Factor			1	1	1	1
7	Crew Time Factor			2	0	0	
8	System Compatibility Factor			4	.9	3.6	1

FINAL SELECTION FACTOR **8.5** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{59.6}{7}$

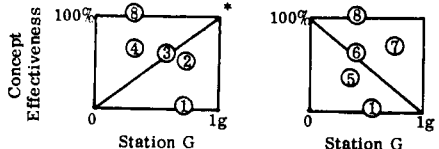
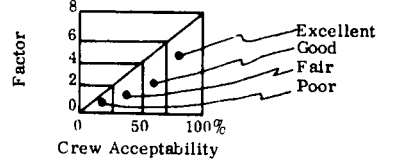
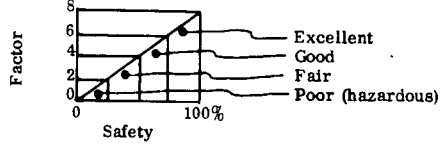
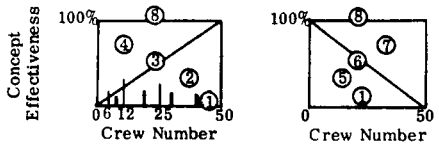
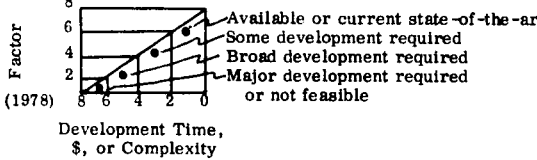
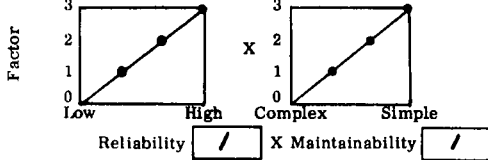
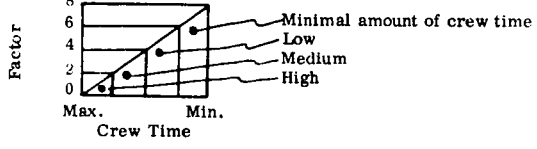
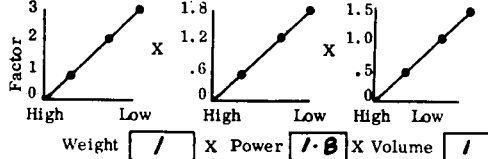
INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

SELECTION RATIONALE

Concept No. **3.1.4**

Title **POWER SOURCE -
ISOTOPE / INTERLOOP**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor 	3	4	12	1
2	Crew Acceptability Factor 	3	4	12	1
3	Safety Factor 	2	6	12	1
4	Crew Size Acceptability Factor 	1	2	2	1
5	Development Risk Factor 	3	5	15	1
6	Operability Factor 	1	1	1	1
7	Crew Time Factor 	2	0	0	
8	System Compatibility Factor 	4	1.8	7.2	1

FINAL SELECTION FACTOR

8.7

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

61.2

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY
(> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3.1.6**

Title **POWER SOURCE-
CHEMICAL REACTION**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor	3	4	12	1
2	Crew Acceptability Factor	3	2	6	1
3	Safety Factor	2	1	2	1
4	Crew Size Acceptability Factor	1	5	5	1
5	Development Risk Factor	3	4	12	1
6	Operability Factor	1	1	1	1
7	Crew Time Factor	2	3	6	1
8	System Compatibility Factor	4	1.8	7.2	1

FINAL SELECTION FACTOR

6.4

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

51.2

8

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY

(> 9)



Concept No. 3.1.7 Title POWER SOURCE FOSSILE FUEL		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					Chart Use
1	Gravitational Factor		○ Factor	3	2	6	1
2	Crew Acceptability Factor			3	2	6	1
3	Safety Factor			2	1	2	1
4	Crew Size Acceptability Factor			1	5	5	1
5	Development Risk Factor			3	5	15	1
6	Operability Factor			1	2	2	1
7	Crew Time Factor			2	4	8	1
8	System Compatibility Factor			4	1.8	7.2	1

FINAL SELECTION FACTOR

6.4

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

51.2

8

Sum
Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY

(> 9)

SELECTION RATIONALE

Concept No. **3.1.8**

Title **POWER SOURCE -
COMBINATION ELECTRICAL
AND SOLAR INTERLOOP**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	4	12	1
3	Safety Factor		2	5	10	1
4	Crew Size Acceptability Factor		1	2	2	1
5	Development Risk Factor		3	4	12	1
6	Operability Factor		1	2	2	1
7	Crew Time Factor		2	0	0	
8	System Compatibility Factor		4	1.2	4.8	1

FINAL SELECTION FACTOR

7.8

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

54.8

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY

(> 9)



Concept No. 3.1.9 Title POWER SOURCE - COMBINATION ELECTRICAL AND NUCLEAR REACTOR		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	4	12	1	
2	Crew Acceptability Factor		3	4	12	1	
3	Safety Factor		2	1	1	1	
4	Crew Size Acceptability Factor		1	2	2	1	
5	Development Risk Factor		3	3	9	1	
6	Operability Factor		1	0	0	1	
7	Crew Time Factor		2	0	0		
8	System Compatibility Factor		4	1	4	1	

FINAL SELECTION FACTOR **5.9** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{41}{7}$

INTERIM STUDY SELECTION: DISCARD ☒ or STUDY ☐

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3.1.10**

Title: **POWER SOURCE - COMBINATION ELECTRICAL AND ISOTOPE INTERLOOP**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	4	12	1
3	Safety Factor		2	6	12	1
4	Crew Size Acceptability Factor		1	2	2	1
5	Development Risk Factor		3	5	15	1
6	Operability Factor		1	2	2	1
7	Crew Time Factor		2	0	0	
8	System Compatibility Factor		4	1.2	4.8	1

FINAL SELECTION FACTOR

8.5

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

59.8

7

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY
(> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

Concept No. 3-2-1 Title HOT AIR CONVECTOR HEATING OVEN		SELECTION RATIONALE Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor			3	4	12	1
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	3	3	1
5	Development Risk Factor			3	7	21	1
6	Operability Factor			1	4	4	1
7	Crew Time Factor			2	6	12	1
8	System Compatibility Factor			4	2.4	9.6	1

FINAL SELECTION FACTOR **11.8** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{94.6}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ (≤ 9) or STUDY ☒ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. 3.2.2 Title MICROWAVE HEATING OVEN		Select appropriate curve representation, then use corresponding factor. • Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Σ Mult x Factor	**
1	Gravitational Factor		○ Factor	3	4	12	1
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	1	1	1
5	Development Risk Factor			3	7	21	1
6	Operability Factor			1	1	1	1
7	Crew Time Factor			2	8	16	1
8	System Compatibility Factor			4	1.8	7.2	1

FINAL SELECTION FACTOR

11.4

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

91.2

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD (≤ 9) ☐

or

STUDY (> 9) ☒

Concept No. **3.2.3**

Title **RADIANT HEATING OVEN**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	7	21	1
3	Safety Factor		2	3	6	1
4	Crew Size Acceptability Factor		1	3	3	1
5	Development Risk Factor		3	6	18	1
6	Operability Factor		1	4	4	1
7	Crew Time Factor		2	4	8	1
8	System Compatibility Factor		4	2	8	1

FINAL SELECTION FACTOR **10** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{80}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

SELECTION RATIONALE

Concept No. **3.2.4**

Title **DIELECTRIC HEATING OVEN**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls,
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor	3	8	24	1
2	Crew Acceptability Factor	3	2	6	1
3	Safety Factor	2	5	10	1
4	Crew Size Acceptability Factor	1	1	1	1
5	Development Risk Factor	3	5	15	1
6	Operability Factor	1	2	2	1
7	Crew Time Factor	2	3	6	1
8	System Compatibility Factor	4	2	8	1

FINAL SELECTION FACTOR

(9)

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

72
8

Sum

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☒ or STUDY (> 9) ☐

SELECTION RATIONALE

Concept No. 3. 2. 5 Title WRAP-ON HEATING JACKET		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		○ Factor	3	4	12	1
2	Crew Acceptability Factor			3	3	9	1
3	Safety Factor			2	7	14	1
4	Crew Size Acceptability Factor			1	1	1	1
5	Development Risk Factor			3	5	15	1
6	Operability Factor			1	4	4	1
7	Crew Time Factor			2	3	6	1
8	System Compatibility Factor			4	3.6	14.4	1

FINAL SELECTION FACTOR **(9.3)** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{75.4}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3.2.6**

Title **SELF-HEATING
FOOD PACKAGE**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	8	24	1
2	Crew Acceptability Factor	3	5	15	1
3	Safety Factor	2	6	12	1
4	Crew Size Acceptability Factor	1	1	1	1
5	Development Risk Factor	3	5	15	1
6	Operability Factor	1	6	6	1
7	Crew Time Factor	2	7	14	1
8	System Compatibility Factor	4	4.5	18	1

FINAL SELECTION FACTOR

13.1

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

105

8

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)

☐

or

STUDY

(> 9)

☒

Concept No. 3.2.7 Title INDUCTION HEATING OF FOODS		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor	Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		3	4	12	1
2	Crew Acceptability Factor			3	3	9	1
3	Safety Factor			2	3	6	1
4	Crew Size Acceptability Factor			1	1	1	1
5	Development Risk Factor			3	4	12	1
6	Operability Factor			1	1	1	1
7	Crew Time Factor			2	4	8	1
8	System Compatibility Factor			4	2	8	1

FINAL SELECTION FACTOR 7.1
 = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$
 = 57 / 8

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. 3.2.8 Title CONDUCTION HEATING OVEN		Select appropriate curve representation, then use corresponding factor. • Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		Factor	3	8	24	1
2	Crew Acceptability Factor		Factor	3	3	9	1
3	Safety Factor		Factor	2	3	6	1
4	Crew Size Acceptability Factor		Factor	1	1	1	1
5	Development Risk Factor		Factor	3	4	12	1
6	Operability Factor		Factor	1	3	3	1
7	Crew Time Factor		Factor	2	4	8	1
8	System Compatibility Factor		Factor	4	1.2	4.8	1

FINAL SELECTION FACTOR

8.1

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

65.8

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD

(< 9)



or

STUDY

(> 9)



FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. 3.2.9 Title PROBE - TYPE RESISTANCE HEATING CONCEPT		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		○ Factor	3	8	24	1
2	Crew Acceptability Factor			3	3	9	1
3	Safety Factor			2	3	6	1
4	Crew Size Acceptability Factor			1	1	1	1
5	Development Risk Factor			3	6	18	1
6	Operability Factor			1	3	3	1
7	Crew Time Factor			2	3	6	1
8	System Compatibility Factor			4	0	0	1

FINAL SELECTION FACTOR **6.3** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{67}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3.2.10**

Title **PRESSURE COOKER HEATING**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor	3	4	12	1
2	Crew Acceptability Factor	3	2	6	1
3	Safety Factor	2	2	4	1
4	Crew Size Acceptability Factor	1	2	2	1
5	Development Risk Factor	3	4	12	1
6	Operability Factor	1	1	2	1
7	Crew Time Factor	2	4	8	1
8	System Compatibility Factor	4	1	4	1

FINAL SELECTION FACTOR

6.3

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

50

8

Sum

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☒ or STUDY (> 9) ☐

Concept No. 3.2.11 Title FLASH STEAM HEATING		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.	3	8	24	1
2	Crew Acceptability Factor			3	2	6	1
3	Safety Factor			2	2	4	1
4	Crew Size Acceptability Factor			1	2	2	1
5	Development Risk Factor			3	4	12	1
6	Operability Factor			1	2	2	1
7	Crew Time Factor			2	4	8	1
8	System Compatibility Factor			4	3.6	14.4	1

FINAL SELECTION FACTOR **9.0** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{72.4}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ or STUDY ☐

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3. 2. 12**

Title **FOOD HEATING
SOLAR EXPOSURE**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor	3	4	12	1
2	Crew Acceptability Factor	3	2	6	1
3	Safety Factor	2	4	8	1
4	Crew Size Acceptability Factor	1	2	2	1
5	Development Risk Factor	3	4	12	1
6	Operability Factor	1	4	4	1
7	Crew Time Factor	2	3	6	1
8	System Compatibility Factor	4	3.6	14.4	

FINAL SELECTION FACTOR

8.0

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

64.4

8

INTERIM STUDY SELECTION:

DISCARD
(≤ 8)



or

STUDY
(> 8)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

Concept No. 3.2.13 Title COMBINATION MICRO-WAVE AND RADIANT HEATING OVEN		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	Chart Use
1	Gravitational Factor		○ Factor	3	4	12	1
2	Crew Acceptability Factor			3	8	24	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	1	1	1
5	Development Risk Factor			3	7	21	1
6	Operability Factor			1	1	1	1
7	Crew Time Factor			2	8	16	1
8	System Compatibility Factor			4	1.8	7.2	1

FINAL SELECTION FACTOR **11.7** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{94.2}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ (≤ 9) or STUDY ☒ (> 9)

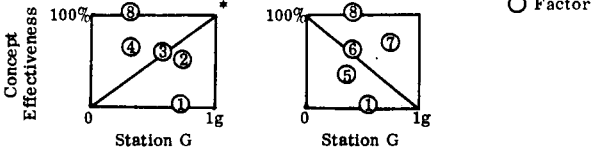
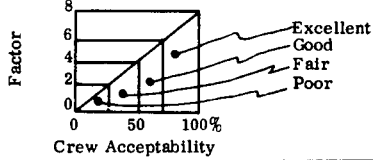
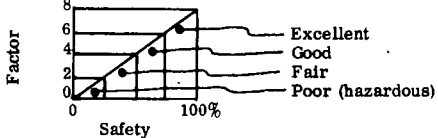
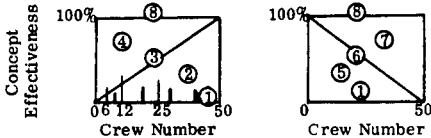
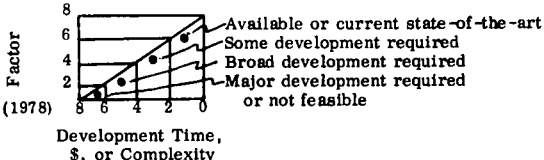
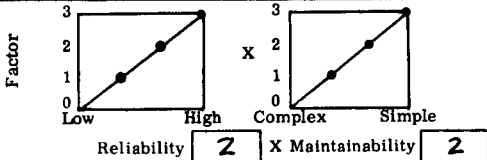
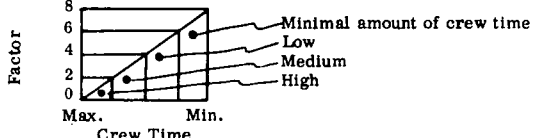
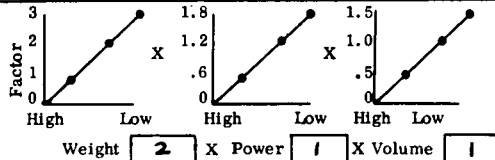
SELECTION RATIONALE

Concept No. 3. 2. 14 Title COMBINATION HOT AIR CONVECTION AND RADIANT HEATING OVEN		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor			3	4	12	1
2	Crew Acceptability Factor			3	8	24	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	3	3	1
5	Development Risk Factor			3	7	21	1
6	Operability Factor			1	4	4	1
7	Crew Time Factor			2	6	12	1
8	System Compatibility Factor			4	2.4	9.6	1

FINAL SELECTION FACTOR **12.2** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{97.6}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ (≤ 9) or STUDY ☒ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

Concept No. 3. 2. 15 Title ELECTRICALLY HEATED FOOD TRAY		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					Chart Use
1	Gravitational Factor			3	4	12	1
2	Crew Acceptability Factor			3	6	18	1
3	Safety Factor			2	3	6	1
4	Crew Size Acceptability Factor			1	5	5	1
5	Development Risk Factor			3	7	21	1
6	Operability Factor			1	4	4	1
7	Crew Time Factor			2	4	8	1
8	System Compatibility Factor			4	2	8	1

FINAL SELECTION FACTOR **10.2** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{82}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3.4.1**

Title **WALL-MOUNTED
PREPARATION COUNTER**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Multi x Factor	**
1	Gravitational Factor				
		3	5	15	1
2	Crew Acceptability Factor				
		3	6	18	1
3	Safety Factor				
		2	4	8	1
4	Crew Size Acceptability Factor				
		1	4	4	1
5	Development Risk Factor				
		3	6	18	1
6	Operability Factor				
		1	4	4	1
7	Crew Time Factor				
		2	4	8	1
8	System Compatibility Factor				
		4	3.6	14.4	1

FINAL SELECTION FACTOR

11.6

$$= \frac{\sum (\text{Multi x Factor})}{\text{Number of Charts Used}}$$

89.4

8

Sum

Sum

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

SELECTION RATIONALE

Concept No. 3. 4. 2

Title: COUNTERTOP WITH
BUILT-IN ELECTRICAL
POWER SOURCE FOR
OPERATING PREPARATION
DEVICES

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	6	18	1
3	Safety Factor		2	4	8	1
4	Crew Size Acceptability Factor		1	6	6	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	4	4	1
7	Crew Time Factor		2	4	8	1
8	System Compatibility Factor		4	1.2	4.8	1

FINAL SELECTION FACTOR

10.6

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

84.8

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)

or

STUDY
(> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3.4.3**

Title **FOLD-AWAY
PREPARATION COUNTER**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	2	6	1
2	Crew Acceptability Factor	3	4	12	1
3	Safety Factor	2	2	4	1
4	Crew Size Acceptability Factor	1	4	4	1
5	Development Risk Factor	3	8	24	1
6	Operability Factor	1	4	4	1
7	Crew Time Factor	2	4	8	1
8	System Compatibility Factor	4	8.1	32.4	1

FINAL SELECTION FACTOR

11.8

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

94.4

8

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)

☐

or

STUDY

(> 9)

☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

Concept No. **3.4.4**

Title: **SERVING CART
COUNTER TOP**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	5	15	1
2	Crew Acceptability Factor		3	4	12	1
3	Safety Factor		2	4	8	1
4	Crew Size Acceptability Factor		1	5	5	1
5	Development Risk Factor		3	6	18	1
6	Operability Factor		1	4	4	1
7	Crew Time Factor		2	4	8	1
8	System Compatibility Factor		4	.9	3.6	1

FINAL SELECTION FACTOR

9.2

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

73.6

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or STUDY
(> 9) ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3. 4. 5**

Title **COMBINATION
PREPARATION AND
SERVING COUNTER**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor				
		3	8	24	1
2	Crew Acceptability Factor				
		3	6	18	1
3	Safety Factor				
		2	4	8	1
4	Crew Size Acceptability Factor				
		1	6	6	1
5	Development Risk Factor				
		3	6	18	1
6	Operability Factor				
		1	4	4	1
7	Crew Time Factor				
		2	4	8	1
8	System Compatibility Factor				
		4	.6	2.4	1

FINAL SELECTION FACTOR

11.0

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

88.4

8

Sum

Sum

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

Concept No. **3.5.1**

Title **SNACK BAR**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
 * Estimate shape of curve and use the corresponding section number into which the curve falls.
 ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		3	5	15	1
2	Crew Acceptability Factor		3	8	24	1
3	Safety Factor		2	4	8	1
4	Crew Size Acceptability Factor		1	4	4	1
5	Development Risk Factor		3	4	12	1
6	Operability Factor		1	1	1	1
7	Crew Time Factor		2	6	12	1
8	System Compatibility Factor		4	.6	2.4	2

FINAL SELECTION FACTOR **9.8** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{78.4}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3.6.1**

Title **FOOD DISPENSER CABINET**

Select appropriate curve representation. then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used. put 1 in this column; if not used. put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	7	21	1
2	Crew Acceptability Factor	3	4	12	1
3	Safety Factor	2	4	8	1
4	Crew Size Acceptability Factor	1	6	6	1
5	Development Risk Factor	3	8	24	1
6	Operability Factor	1	4	4	1
7	Crew Time Factor	2	4	8	1
8	System Compatibility Factor	4	1.2	4.8	1

FINAL SELECTION FACTOR

10.9

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

87.8

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)

☐

or

STUDY
(> 9)

☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

Concept No. 3.7.1 Title FOOD STORAGE CABINET		SELECTION RATIONALE Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		○ Factor	3	6	18	1
2	Crew Acceptability Factor			3	6	18	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	6	6	1
5	Development Risk Factor			3	6	18	1
6	Operability Factor			1	4	4	1
7	Crew Time Factor			2	6	12	1
8	System Compatibility Factor			4	3.6	14.4	1

FINAL SELECTION FACTOR **12.8** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{102.4}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. 3.7.2 Title SELF STORING FOOD CONTAINERS		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		Factor	3	5	15	1
2	Crew Acceptability Factor		Factor	3	4	12	1
3	Safety Factor		Factor	2	4	8	1
4	Crew Size Acceptability Factor		Factor	1	4	4	1
5	Development Risk Factor		Factor	3	8	24	1
6	Operability Factor		Factor	1	9	9	1
7	Crew Time Factor		Factor	2	8	16	1
8	System Compatibility Factor		Factor	4	8.1	32.4	1

FINAL SELECTION FACTOR **12.5** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{100.4}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ (≤ 9) or STUDY ☒ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. 3.7.3 Title AUTOMATIC FOOD STORAGE CABINETS, OVERCOUNTER MOUNTED		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor			3	7	21	1
2	Crew Acceptability Factor			3	8	24	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	8	8	1
5	Development Risk Factor			3	2	6	1
6	Operability Factor			1	4	4	1
7	Crew Time Factor			2	8	16	1
8	System Compatibility Factor			4	1.2	4.8	1

FINAL SELECTION FACTOR

11.9

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

95.8

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD (≤ 9) ☐

or

STUDY (> 9) ☒

SELECTION RATIONALE

Concept No. **3.8.1**

Title
KNEADERS- MECHANICAL

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor	3	4	12	1
2	Crew Acceptability Factor	3	6	18	1
3	Safety Factor	2	4	8	1
4	Crew Size Acceptability Factor	1	4	4	1
5	Development Risk Factor	3	6	18	2
6	Operability Factor	1	4	4	1
7	Crew Time Factor	2	6	12	1
8	System Compatibility Factor	4	2.4	9.6	1

FINAL SELECTION FACTOR

10.7

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

85.6

8

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)

☐

or

STUDY
(> 9)

☒

SELECTION RATIONALE

Concept No. 3.8-2 Title KNEADER HAND OPERATION		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		○ Factor	3	4	12	1
2	Crew Acceptability Factor			3	2	6	1
3	Safety Factor			2	4	8	1
4	Crew Size Acceptability Factor			1	1	1	1
5	Development Risk Factor			3	8	24	1
6	Operability Factor			1	6	6	1
7	Crew Time Factor			2	1	2	1
8	System Compatibility Factor			4	5.4	21.6	1

FINAL SELECTION FACTOR

10

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

80.6

8

Sum

Sum

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3. B. 3**

Title **HOT FOOD
HANDLING TONGS**

Select appropriate curve representation. then use corresponding factor.
* Estimate shape of curve and use the corresponding section number
into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	8	24	1
2	Crew Acceptability Factor		3	6	18	1
3	Safety Factor		2	6	12	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	9	9	1
7	Crew Time Factor		2	4	8	1
8	System Compatibility Factor		4	8.1	32.4	1

FINAL SELECTION FACTOR

16.9

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

135.4

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or

STUDY ☒
(> 9)

Concept No. **3.8.4**
Title **CLAMSHELL - TYPE HANDLING DEVICE**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	7	21	1
2	Crew Acceptability Factor		3	6	18	1
3	Safety Factor		2	6	12	1
4	Crew Size Acceptability Factor		1	7	7	1
5	Development Risk Factor		3	6	18	1
6	Operability Factor		1	6	6	1
7	Crew Time Factor		2	6	12	1
8	System Compatibility Factor		4	5.4	21.6	1

FINAL SELECTION FACTOR **14.4** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{115.6}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3.8.5**

Title **MIXING BOWL**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	2	6	1
2	Crew Acceptability Factor	3	2	6	1
3	Safety Factor	2	2	4	1
4	Crew Size Acceptability Factor	1	2	2	1
5	Development Risk Factor	3	8	24	1
6	Operability Factor	1	3	3	1
7	Crew Time Factor	2	2	4	1
8	System Compatibility Factor	4	5.4	21.6	1

FINAL SELECTION FACTOR

0.8

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

70.6
8

Sum
Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY
(> 9)



Concept No. **3.8.6**

Title **SPOON**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
 * Estimate shape of curve and use the corresponding section number into which the curve falls.
 ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	Chart Use
1	Gravitational Factor		3	2	6	1
2	Crew Acceptability Factor		3	4	12	1
3	Safety Factor		2	2	4	1
4	Crew Size Acceptability Factor		1	2	2	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	2	2	1
7	Crew Time Factor		2	2	4	1
8	System Compatibility Factor		4	3.6	14.4	1

FINAL SELECTION FACTOR

8.5

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

68.4

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD ☒ (≤ 9)

or STUDY ☐ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3.8.7**

Title **ICE CREAM SCOOP**

Select appropriate curve representation, then use corresponding factor.
• Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	6	18	1
3	Safety Factor		2	4	8	1
4	Crew Size Acceptability Factor		1	3	3	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	6	6	1
7	Crew Time Factor		2	4	8	1
8	System Compatibility Factor		4	3.6	14.4	1

FINAL SELECTION FACTOR

11.6

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

93.4

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or

STUDY
(> 9) ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. 3.8.8 Title. EGG SLICER		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.				Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor					3	2	6	1
2	Crew Acceptability Factor					3	2	6	1
3	Safety Factor					2	2	4	1
4	Crew Size Acceptability Factor					1	2	2	1
5	Development Risk Factor					3	8	24	1
6	Operability Factor					1	1	1	1
7	Crew Time Factor					2	4	8	1
8	System Compatibility Factor					4	3.6	14.4	1

FINAL SELECTION FACTOR **8.1** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{65.4}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ or STUDY ☐

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. 3. 8. 9 Title KITCHEN UTILITY SHEARS		Select appropriate curve representation. then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		○ Factor	3	7	21	1
2	Crew Acceptability Factor			3	4	12	1
3	Safety Factor			2	4	8	1
4	Crew Size Acceptability Factor			1	5	5	1
5	Development Risk Factor			3	8	24	1
6	Operability Factor			1	4	4	1
7	Crew Time Factor			2	4	8	1
8	System Compatibility Factor			4	3.6	14.4	1

FINAL SELECTION FACTOR

12.0

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

96.4

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)

☐

or

STUDY
(> 9)

☒

Concept No. **3.8.10**

Title: **HAND-OPERATION
MIXER/BLENDER**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	5	15	1
2	Crew Acceptability Factor		3	6	18	1
3	Safety Factor		2	4	8	1
4	Crew Size Acceptability Factor		1	3	3	1
5	Development Risk Factor		3	6	18	1
6	Operability Factor		1	4	4	1
7	Crew Time Factor		2	6	12	1
8	System Compatibility Factor		4	3.6	14.4	1

FINAL SELECTION FACTOR **11.5** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{92.4}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒ (≤ 9) or (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3.8.11**

Title **RUBBER SPATULA**

Select appropriate curve representation, then use corresponding factor.
 * Estimate shape of curve and use the corresponding section number into which the curve falls.
 ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	4	12	1
3	Safety Factor		2	6	12	1
4	Crew Size Acceptability Factor		1	3	3	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	6	6	1
7	Crew Time Factor		2	6	12	1
8	System Compatibility Factor		4	8.1	32.4	1

FINAL SELECTION FACTOR **14.1** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{113.4}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

Concept No. 3.8.12 Title FOOD CHOPPER		SELECTION RATIONALE Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	Chart Use
1	Gravitational Factor		○ Factor	3	4	12	1
2	Crew Acceptability Factor			3	4	12	1
3	Safety Factor			2	4	8	1
4	Crew Size Acceptability Factor			1	4	4	1
5	Development Risk Factor			3	6	18	1
6	Operability Factor			1	4	4	1
7	Crew Time Factor			2	4	8	1
8	System Compatibility Factor			4	3.6	14.4	1

FINAL SELECTION FACTOR

10

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

80.4

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or

STUDY
(> 9) ☒

SELECTION RATIONALE

Concept No. 3.9.1 Title CONTROLLED SPILLAGE DEVICE		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		Factor	3	3	9	1
2	Crew Acceptability Factor		Factor	3	6	18	1
3	Safety Factor		Factor	2	6	12	1
4	Crew Size Acceptability Factor		Factor	1	6	6	1
5	Development Risk Factor		Factor	3	6	18	1
6	Operability Factor		Factor	1	4	4	1
7	Crew Time Factor		Factor	2	8	16	1
8	System Compatibility Factor		Factor	4	1.2	4.8	1

FINAL SELECTION FACTOR **10.9** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{87.8}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

Concept No. **3.10.1**

Title
NO MAN RESTRAINT

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls,
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	2	6	1
2	Crew Acceptability Factor		3	1	3	1
3	Safety Factor		2	1	2	1
4	Crew Size Acceptability Factor		1	3	3	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	3	3	1
7	Crew Time Factor		2	1	2	1
8	System Compatibility Factor		4	8.1	32.4	

FINAL SELECTION FACTOR **(9.8)** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{75.4}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3.10.2**

Title **CHAIR WITH WAIST RESTRAINT**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	2	6	1
3	Safety Factor		2	4	8	1
4	Crew Size Acceptability Factor		1	4	4	1
5	Development Risk Factor		3	4	12	1
6	Operability Factor		1	1	1	1
7	Crew Time Factor		2	0	0	1
8	System Compatibility Factor		4	3.6	14.4	1

FINAL SELECTION FACTOR

7.1

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

57.4

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD

(≤ 9)

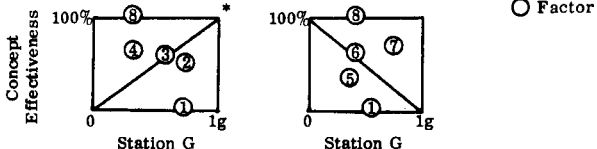
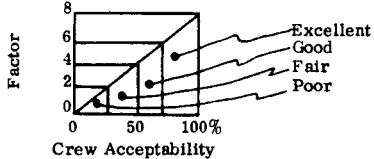
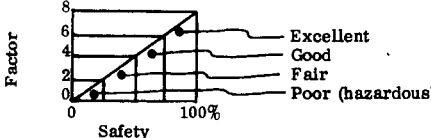
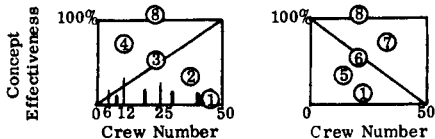
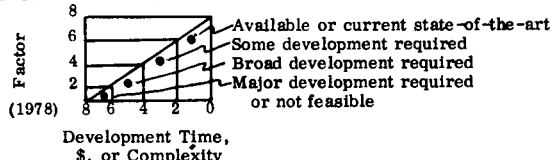
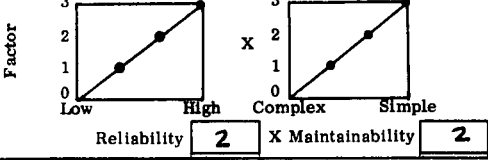
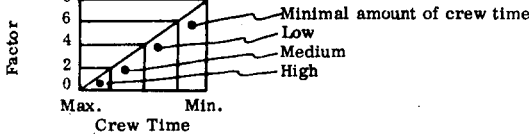
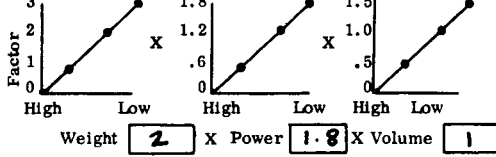


or

STUDY

(> 9)



Concept No. 3.10.3 Title WAIST AND FOOT RESTRAINT		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					
1	Gravitational Factor			3	6	18	1
2	Crew Acceptability Factor			3	4	12	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	6	6	1
5	Development Risk Factor			3	6	18	1
6	Operability Factor			1	4	4	1
7	Crew Time Factor			2	4	8	1
8	System Compatibility Factor			4	3.6	14.4	1

FINAL SELECTION FACTOR **11.5** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{92.4}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3. 11. 1**

Title **FOOD TRANSPORTATION
CONVEYOR BELT**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	6	18	1
2	Crew Acceptability Factor		3	6	18	1
3	Safety Factor		2	4	8	1
4	Crew Size Acceptability Factor		1	6	6	1
5	Development Risk Factor		3	6	18	1
6	Operability Factor		1	4	4	1
7	Crew Time Factor		2	6	12	1
8	System Compatibility Factor		4	.6	2.4	1

FINAL SELECTION FACTOR

10.8

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

86.4

8

Sum

Sum

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

Concept No. **3.11.2**

Title **MAGNETIC
CONVEYOR SYSTEM -
MOTOR DRIVEN**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	5	15	1
2	Crew Acceptability Factor		3	6	18	1
3	Safety Factor		2	4	8	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	6	18	1
6	Operability Factor		1	9	9	1
7	Crew Time Factor		2	4	8	1
8	System Compatibility Factor		4	1.8	7.2	1

FINAL SELECTION FACTOR **(11.4)** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{91.2}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

SELECTION RATIONALE

Concept No. **3.11.3**

Title **MECHANICAL RAIL
TRANSPORT SYSTEM**

Select appropriate curve representation. then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	7	21	1
2	Crew Acceptability Factor		3	6	18	1
3	Safety Factor		2	6	12	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	4	12	1
6	Operability Factor		1	6	6	1
7	Crew Time Factor		2	6	12	1
8	System Compatibility Factor		4	1.2	4.8	1

FINAL SELECTION FACTOR

11.7

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

93.8

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)

☐

or

STUDY

(> 9)

☒

Concept No. **3-11.4**

Title **DOLLY TYPE GUIDED CONTAINER**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	6	18	1
2	Crew Acceptability Factor		3	4	12	1
3	Safety Factor		2	4	8	1
4	Crew Size Acceptability Factor		1	7	7	1
5	Development Risk Factor		3	6	18	1
6	Operability Factor		1	6	6	1
7	Crew Time Factor		2	4	8	1
8	System Compatibility Factor		4	1.8	7.2	1

FINAL SELECTION FACTOR **10.5** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}} = \frac{84.2}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3.11.5**

Title **NET TYPE BAG**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	3	9	1
2	Crew Acceptability Factor		3	4	12	1
3	Safety Factor		2	4	8	1
4	Crew Size Acceptability Factor		1	4	4	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	9	9	1
7	Crew Time Factor		2	8	16	1
8	System Compatibility Factor		4	8.1	32.4	1

FINAL SELECTION FACTOR

14.3

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

114.4

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or

STUDY
(> 9) ☒

Concept No. 3. 11. 6 Title HAND CARRYING OF LOOSE PACKAGES		SELECTION RATIONALE Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		○ Factor	3	2	6	1
2	Crew Acceptability Factor			3	2	6	1
3	Safety Factor			2	2	4	1
4	Crew Size Acceptability Factor			1	2	2	1
5	Development Risk Factor			3	8	24	1
6	Operability Factor			1	3	3	1
7	Crew Time Factor			2	2	4	1
8	System Compatibility Factor			4	8.1	32.4	1

FINAL SELECTION FACTOR **(10.1)** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{81.4}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☒ or STUDY (> 9) ☐

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **3. 11. 7**

Title **FOOD HANDLING
TONGS**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Multi x Factor	**
1	Gravitational Factor				
		3	8	24	1
2	Crew Acceptability Factor				
		3	6	18	1
3	Safety Factor				
		2	4	8	1
4	Crew Size Acceptability Factor				
		1	6	6	1
5	Development Risk Factor				
		3	8	24	1
6	Operability Factor				
		1	9	9	1
7	Crew Time Factor				
		2	4	8	1
8	System Compatibility Factor				
		4	8.1	32.4	1

FINAL SELECTION FACTOR

16.1

$$= \frac{\sum (\text{Multi x Factor})}{\text{Number of Charts Used}}$$

129.4

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)

or

STUDY
(> 9) ☒

FUNCTIONAL SUBSYSTEM AREA 4.0

PROVIDE FOR SERVING OF FOOD

SELECTION RATIONALE

Concept No. 4.1.1 Title SELF SERVICE		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		○ Factor	3	4	12	1
2	Crew Acceptability Factor			3	6	18	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	6	6	1
5	Development Risk Factor			3	8	24	1
6	Operability Factor			1	9	9	1
7	Crew Time Factor			2	2	4	1
8	System Compatibility Factor			4	3.1	32.4	1

FINAL SELECTION FACTOR

14.7

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}} =$$

117.4

8

Sum

Sum

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **4.1.2**

Title **STEWARD SERVICE**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	4	12	1
2	Crew Acceptability Factor	3	8	24	1
3	Safety Factor	2	6	12	1
4	Crew Size Acceptability Factor	1	4	4	1
5	Development Risk Factor	3	5	15	1
6	Operability Factor	1	9	9	1
7	Crew Time Factor	2	7	14	1
8	System Compatibility Factor	4	8.1	32.4	1

FINAL SELECTION FACTOR

15.3

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

122.4
8

INTERIM STUDY SELECTION:

DISCARD
(< 9)

☐

or

STUDY

(> 9)

☒

Concept No. 4.1.3 Title TRAY/RAIL CONVEYOR		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					
1	Gravitational Factor		Factor	3	8	24	1
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	7	14	1
4	Crew Size Acceptability Factor			1	4	4	1
5	Development Risk Factor			3	5	15	1
6	Operability Factor			1	2	2	1
7	Crew Time Factor			2	3	6	1
8	System Compatibility Factor			4	2.4	9.6	1

FINAL SELECTION FACTOR **11.9** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{95.6}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

SELECTION RATIONALE

Concept No. 4.1.4 Title ENDLESS BELT CONVEYOR		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor			3	8	24	1
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	0	0	1
4	Crew Size Acceptability Factor			1	2	2	1
5	Development Risk Factor			3	5	15	1
6	Operability Factor		Reliability <input type="text" value="1"/> X Maintainability <input type="text" value="0"/>	1	0	0	
7	Crew Time Factor			2	3	6	1
8	System Compatibility Factor		Weight <input type="text" value="/"/> X Power <input type="text" value=".6"/> X Volume <input type="text" value=".5"/>	4	.3	1.2	1

FINAL SELECTION FACTOR **8.9** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{69.2}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

SELECTION RATIONALE

Concept No. **4.1.5**

Title **DIRECTED AIR CURRENT**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	5	15	1
2	Crew Acceptability Factor		3	5	15	1
3	Safety Factor		2	1	2	1
4	Crew Size Acceptability Factor		1	2	2	1
5	Development Risk Factor		3	1	3	1
6	Operability Factor		1	4	4	1
7	Crew Time Factor		2	6	12	1
8	System Compatibility Factor		4	.6	2.4	1

FINAL SELECTION FACTOR **7.0** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{55.4}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. 4.1.6 Title NONE (EAT IN GALLEY)		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		○ Factor	3	7	21	1
2	Crew Acceptability Factor			3	6	18	1
3	Safety Factor			2	7	14	1
4	Crew Size Acceptability Factor			1	5	5	1
5	Development Risk Factor			3	7	21	1
6	Operability Factor			1	9	9	1
7	Crew Time Factor			2	7	14	1
8	System Compatibility Factor			4	5.4	21.6	1

FINAL SELECTION FACTOR

$$15.5 = \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}} = \frac{123.6}{8}$$

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

SELECTION RATIONALE

Concept No. **4.1.7**

Title **TRAY RACK / RAIL CONVEYOR**

Select appropriate curve representation, then use corresponding factor.
 * Estimate shape of curve and use the corresponding section number into which the curve falls.
 ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		3	8	24	1
2	Crew Acceptability Factor		3	7	21	1
3	Safety Factor		2	7	14	1
4	Crew Size Acceptability Factor		1	4	4	1
5	Development Risk Factor		3	5	15	1
6	Operability Factor		1	4	4	1
7	Crew Time Factor		2	5	10	1
8	System Compatibility Factor		4	.3	1.2	1

FINAL SELECTION FACTOR **11.6** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{\text{Sum } \mathbf{93.2}}{\text{Sum } \mathbf{8}}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

SELECTION RATIONALE

Concept No. **4.2.1**

Title **STORAGE RACK**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	8	24	1
2	Crew Acceptability Factor		3	7	21	1
3	Safety Factor		2	7	14	1
4	Crew Size Acceptability Factor		1	4	4	1
5	Development Risk Factor		3	7	21	1
6	Operability Factor		1	9	9	1
7	Crew Time Factor		2	7	14	1
8	System Compatibility Factor		4	3.6	14.4	1

FINAL SELECTION FACTOR

15.2

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

121.4

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)

or

STUDY
(> 9) ☒

FUNCTIONAL SUBSYSTEM AREA 5.0

PROVIDE FOR CONSUMPTION OF FOOD

Concept No. 5.1.1 Title TUBE OR INTRAVENOUS FEEDING		SELECTION RATIONALE Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		Factor	3	3	9	1
2	Crew Acceptability Factor		Factor	3	0	0	1
3	Safety Factor		Factor	2	0	0	1
4	Crew Size Acceptability Factor		Factor	1	4	4	1
5	Development Risk Factor		Factor	3	8	24	1
6	Operability Factor		Factor	1	3	3	1
7	Crew Time Factor		Factor	2	5	10	1
8	System Compatibility Factor		Factor	4	5.4	21.6	1

FINAL SELECTION FACTOR

7.8

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

62.6
8

Sum
Sum

INTERIM STUDY SELECTION: DISCARD ☒ or STUDY ☐

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. 5.2.1 Title HAND TO MOUTH FEEDING		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor			3	7	21	1
2	Crew Acceptability Factor			3	0	0	1
3	Safety Factor			2	5	10	1
4	Crew Size Acceptability Factor			1	5	5	1
5	Development Risk Factor			3	6	18	1
6	Operability Factor			1	9	9	1
7	Crew Time Factor			2	4	8	1
8	System Compatibility Factor			4	1.08	4	1

FINAL SELECTION FACTOR **(9.4)** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{75}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

Concept No. **5.3.1**

Title **ACTIVE CONSUMPTION MENU DIET**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	8	24	1
3	Safety Factor		2	5	10	1
4	Crew Size Acceptability Factor		1	4	4	1
5	Development Risk Factor		3	4	12	1
6	Operability Factor		1	4	4	1
7	Crew Time Factor		2	3	6	1
8	System Compatibility Factor		4	.3	1.2	1

FINAL SELECTION FACTOR **9.2** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{73.2}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

SELECTION RATIONALE

Concept No. **5.4.1**

Title **TRAY WITH RECESSES**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	8	24	1
3	Safety Factor		2	6	12	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	5	15	1
6	Operability Factor		1	4	4	1
7	Crew Time Factor		2	5	10	1
8	System Compatibility Factor		4	1.2	4.8	1

FINAL SELECTION FACTOR

11.2

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

89.8

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)

☐

or

STUDY

(> 9)

☒

Concept No. **5.4.2**

Title
TRAY WITHOUT RECESSES

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	2	6	1
2	Crew Acceptability Factor		3	5	15	1
3	Safety Factor		2	0	0	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	5	15	1
6	Operability Factor		1	9	9	1
7	Crew Time Factor		2	5	10	1
8	System Compatibility Factor		4	1.2	4.8	1

FINAL SELECTION FACTOR

8.5

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

67.8

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD

(≤ 9)



or

STUDY

(> 9)



FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **5.4.3**

Title **TRAY WITH SPIKED
OR RIBBED SURFACES**

Select appropriate curve representation, then use corresponding factor.
• Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	Chart Use
1	Gravitational Factor		3	7	21	1
2	Crew Acceptability Factor		3	6	18	1
3	Safety Factor		2	6	12	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	5	15	1
6	Operability Factor		1	4.5	4.5	1
7	Crew Time Factor		2	5	10	1
8	System Compatibility Factor		4	1.2	4.8	1

FINAL SELECTION FACTOR **11.7** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{93.3}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

SELECTION RATIONALE

Concept No. 5.4.4 Title ALL COHESIVE MENU COMPONENTS		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		○ Factor	3	8	24	1
2	Crew Acceptability Factor			3	5	15	1
3	Safety Factor			2	8	16	1
4	Crew Size Acceptability Factor			1	8	8	1
5	Development Risk Factor			3	7	21	1
6	Operability Factor			1	9	9	1
7	Crew Time Factor			2	6	12	1
8	System Compatibility Factor			4	1.2	4.8	1

FINAL SELECTION FACTOR

13.7

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

109.8

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or STUDY
(> 9) ☒

SELECTION RATIONALE

Concept No. **5.4.5**

Title **PRECUT BITE-SIZED MENU ITEMS**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	4	12	1
2	Crew Acceptability Factor	3	4	12	1
3	Safety Factor	2	7	14	1
4	Crew Size Acceptability Factor	1	8	8	1
5	Development Risk Factor	3	8	24	1
6	Operability Factor	1	9	9	1
7	Crew Time Factor	2	6	12	1
8	System Compatibility Factor	4	8.1	33	1

FINAL SELECTION FACTOR

15.5

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

124

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or

STUDY ☒
(> 9)

Concept No. 5.4.6 Title PACKAGE CONTAINMENT OF MENU ITEMS		SELECTION RATIONALE Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		○ Factor	3	4	12	1
2	Crew Acceptability Factor			3	4	12	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	8	8	1
5	Development Risk Factor			3	5	15	1
6	Operability Factor			1	4	4	1
7	Crew Time Factor			2	5	10	1
8	System Compatibility Factor			4	5.4	22	1

FINAL SELECTION FACTOR **11.9** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{95}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ (≤ 9) or STUDY ☒ (> 9)

SELECTION RATIONALE

Concept No. 5.4.7 Title TRAY WITH COVER		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		○ Factor	3	3	9	1
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	8	16	1
4	Crew Size Acceptability Factor			1	8	8	1
5	Development Risk Factor			3	5	15	1
6	Operability Factor			1	3	3	1
7	Crew Time Factor			2	4	8	1
8	System Compatibility Factor			4	1.2	4.8	1

FINAL SELECTION FACTOR **10.6** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{84.8}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ (≤ 9) or STUDY ☒ (> 9)

SELECTION RATIONALE

Concept No. **5.4.8**

Title **ELECTROSTATIC
ATTRACTION (ION SHOWER)**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	Chart Use
1	Gravitational Factor		3	5	15	1
2	Crew Acceptability Factor		3	8	24	1
3	Safety Factor		2	5	10	1
4	Crew Size Acceptability Factor		1	7	7	1
5	Development Risk Factor		3	1	3	1
6	Operability Factor		1	3	3	1
7	Crew Time Factor		2	0	0	
8	System Compatibility Factor		4	.5	2	

FINAL SELECTION FACTOR **(9.1)** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{64}{7}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **549**

Title **INDINGEMENT
AIRFLOW**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	5	15	1
2	Crew Acceptability Factor	3	2	6	1
3	Safety Factor	2	3	6	1
4	Crew Size Acceptability Factor	1	6	6	1
5	Development Risk Factor	3	3	9	1
6	Operability Factor	1	1	1	1
7	Crew Time Factor	2	0	0	0
8	System Compatibility Factor	4	1	4	1

FINAL SELECTION FACTOR

6.7

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

47

7

INTERIM STUDY SELECTION: DISCARD ☒ or STUDY ☐

Concept No. **5. 4. 10**

Title **FELLOW ASTRONAUT
HOLD FOOD**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	0	0	1
3	Safety Factor		2	0	0	1
4	Crew Size Acceptability Factor		1	4	4	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	0	0	1
7	Crew Time Factor		2	6	12	1
8	System Compatibility Factor		4	8.1	33	1

FINAL SELECTION FACTOR **(10.6)** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{85}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **5.4.11**

Title **EDIBLE MEMBRANOUS COATING**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	7	21	1
2	Crew Acceptability Factor	3	5	15	1
3	Safety Factor	2	7	14	1
4	Crew Size Acceptability Factor	1	8	8	1
5	Development Risk Factor	3	5	15	1
6	Operability Factor	1	7.5	7.5	1
7	Crew Time Factor	2	7	14	1
8	System Compatibility Factor	4	1.2	4.8	1

FINAL SELECTION FACTOR

12.4

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

99.3

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)

☐

or

STUDY
(> 9)

☒

Concept No. 5.5.1 Title OPEN LIQUID CONTAINERS		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor			3	0	0	1
2	Crew Acceptability Factor			3	0	0	1
3	Safety Factor			2	0	0	1
4	Crew Size Acceptability Factor			1	8	8	1
5	Development Risk Factor			3	8	24	1
6	Operability Factor			1	9	9	1
7	Crew Time Factor			2	5	10	1
8	System Compatibility Factor			4	3	12	1

FINAL SELECTION FACTOR **8.9** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{71}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ or STUDY ☐

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **5.5.2**

Title **CLOSED LIQUID CONTAINERS**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	8	24	1
2	Crew Acceptability Factor	3	6	18	1
3	Safety Factor	2	7	14	1
4	Crew Size Acceptability Factor	1	8	8	1
5	Development Risk Factor	3	7	21	1
6	Operability Factor	1	4	4	1
7	Crew Time Factor	2	3	6	1
8	System Compatibility Factor	4	3	12	1

FINAL SELECTION FACTOR

13.4

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

107

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD ☐ (≤ 9)

or

STUDY ☒ (> 9)

Concept No. **5.5.3**

Title **IN PACKAGE LIQUID RESTRAINT**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	8	24	1
2	Crew Acceptability Factor		3	4	12	1
3	Safety Factor		2	7	14	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	6	6	1
7	Crew Time Factor		2	3	6	1
8	System Compatibility Factor		4	2.7	10.8	1

FINAL SELECTION FACTOR **13.1** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{104.8}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

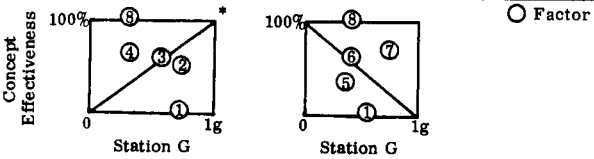
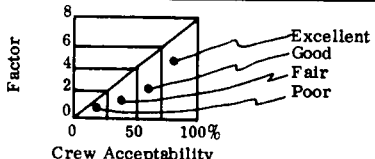
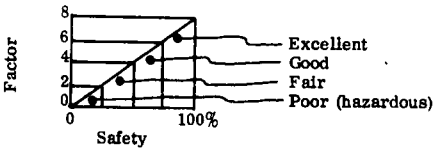
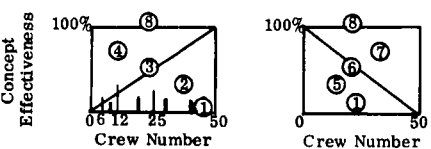
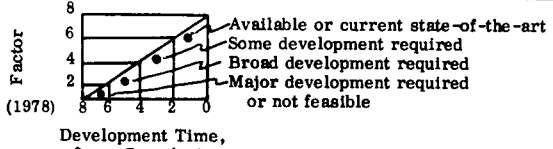
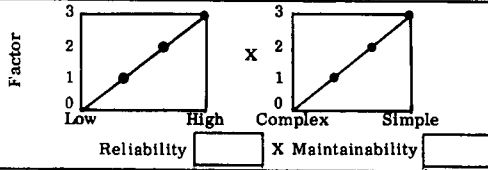
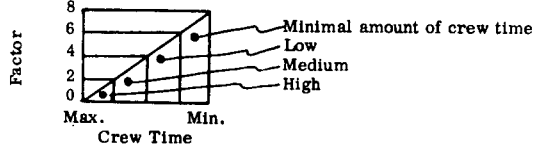
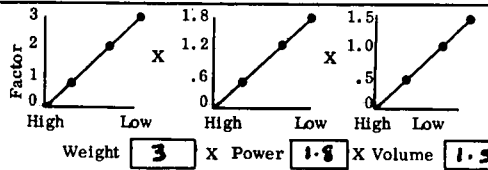
FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **5.5.4**

Title **NO LIQUID
RESTRAINT**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor 	3	0	0	1
2	Crew Acceptability Factor 	3	0	0	1
3	Safety Factor 	2	0	0	1
4	Crew Size Acceptability Factor 	1	5	5	1
5	Development Risk Factor 	3	8	24	1
6	Operability Factor 	1	0	0	1
7	Crew Time Factor 	2	1	2	1
8	System Compatibility Factor 	4	8.1	33	1

FINAL SELECTION FACTOR

8.0

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

64

8

Sum

Sum

INTERIM STUDY SELECTION:

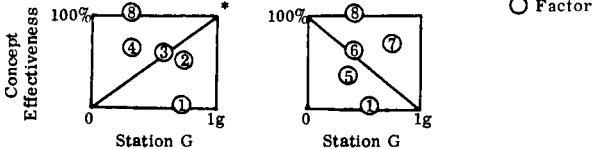
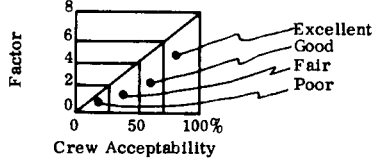
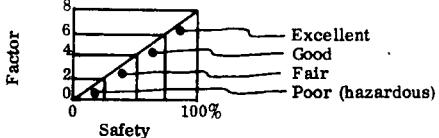
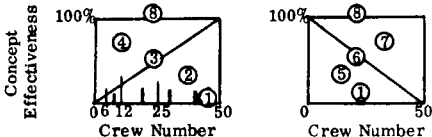
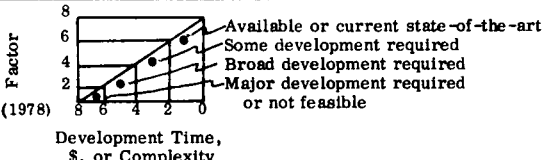
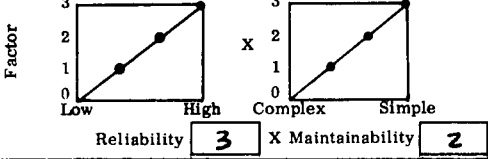
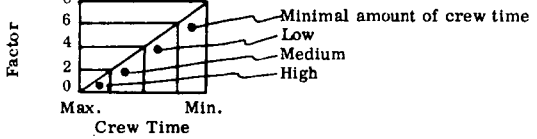
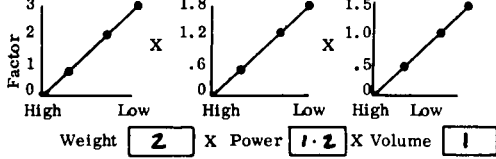
DISCARD
(≤ 9)



or

STUDY
(> 9)



Concept No. 5.6.1 Title EAT ONLY WITH HANDS		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					
1	Gravitational Factor			3	8	24	1
2	Crew Acceptability Factor			3	1	3	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	8	8	1
5	Development Risk Factor			3	7	21	1
6	Operability Factor			1	6	6	1
7	Crew Time Factor			2	4	8	1
8	System Compatibility Factor			4	2.4	9.6	1

FINAL SELECTION FACTOR **(11.5)** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}} = \frac{92}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☒ or STUDY (> 9) ☐

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **5.6.2**

Title **CONVENTIONAL
EATING UTENSILS**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	7	21	1
3	Safety Factor		2	5	10	1
4	Crew Size Acceptability Factor		1	7	7	1
5	Development Risk Factor		3	7	21	1
6	Operability Factor		1	4	4	1
7	Crew Time Factor		2	4	8	1
8	System Compatibility Factor		4	2.4	9.6	1

FINAL SELECTION FACTOR

11.6

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

93

8

Sum

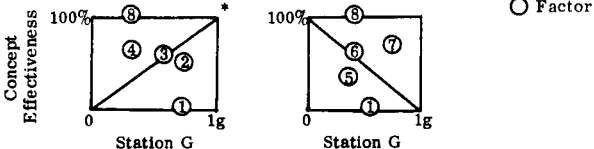
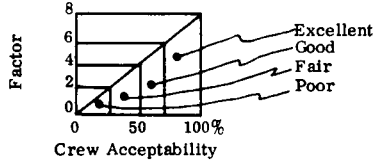
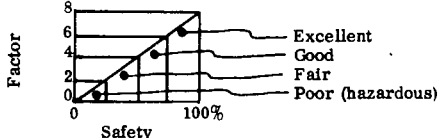
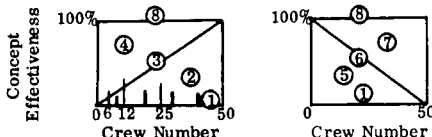
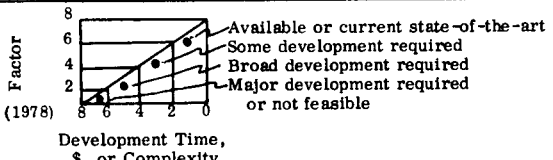
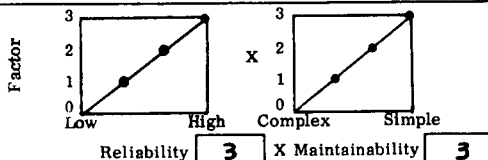
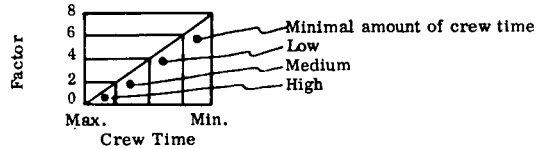
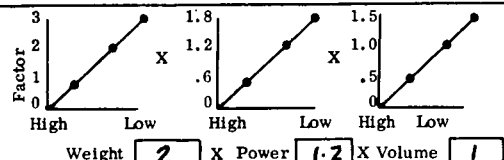
Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or

STUDY
(> 9) ☒

Concept No. 5.6.3 Title UNCONVENTIONAL EATING UTENSILS		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					
1	Gravitational Factor			3	7	21	1
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	7	14	1
4	Crew Size Acceptability Factor			1	8	8	1
5	Development Risk Factor			3	5	15	1
6	Operability Factor			1	9	9	1
7	Crew Time Factor			2	3	6	1
8	System Compatibility Factor			4	2.4	9.6	1

FINAL SELECTION FACTOR **13.0** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{104}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **5.7.1**

Title **NAPKINS (DRY)**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	8	24	1
2	Crew Acceptability Factor	3	8	24	1
3	Safety Factor	2	5	10	1
4	Crew Size Acceptability Factor	1	1	1	
5	Development Risk Factor	3	8	24	1
6	Operability Factor	1	9	9	1
7	Crew Time Factor	2	6	12	1
8	System Compatibility Factor	4	0	0	

FINAL SELECTION FACTOR

17.2

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

103

6

Sum

Sum

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

NOTE: THIS SHEET FOR RECORD ONLY, AS THIS CONCEPT IS INCLUDED AS PART OF SECTION 6.2.

Concept No. **5.7.2**

Title **NAPKIN (WET)**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
 * Estimate shape of curve and use the corresponding section number into which the curve falls.
 ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	8	24	1
2	Crew Acceptability Factor		3	8	24	1
3	Safety Factor		2	6	12	1
4	Crew Size Acceptability Factor		1	5	5	1
5	Development Risk Factor		3	7	21	1
6	Operability Factor		1	9	9	1
7	Crew Time Factor		2	6	12	2
8	System Compatibility Factor		4	1.08	4.3	1

FINAL SELECTION FACTOR

13.9

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

111

8

Sum

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

NOTE: THIS SHEET IS FOR RECORD ONLY, AS THIS CONCEPT IS NOW PART OF SECTION 6.2.

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **5.7.3**

Title **WIPE HANDS ON CLOTHES OF FELLOW ASTRONAUT**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	8	24	1
2	Crew Acceptability Factor	3	0	0	1
3	Safety Factor	2	0	0	1
4	Crew Size Acceptability Factor	1	0	0	
5	Development Risk Factor	3	8	24	1
6	Operability Factor	1	0	0	1
7	Crew Time Factor	2	6	12	1
8	System Compatibility Factor	4	8.1	32	1

FINAL SELECTION FACTOR

(13.1)

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

92

7

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY
(> 9)

Concept No. **5-7-4**

Title **WEAR OVERGARMENT**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
 * Estimate shape of curve and use the corresponding section number into which the curve falls.
 ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	5	15	1
2	Crew Acceptability Factor		3	2	6	1
3	Safety Factor		2	5	10	1
4	Crew Size Acceptability Factor		1	3	3	1
5	Development Risk Factor		3	7	21	1
6	Operability Factor		1	2	2	1
7	Crew Time Factor		2	3	6	1
8	System Compatibility Factor		4	.6	2.4	1

FINAL SELECTION FACTOR

8.2

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}} =$$

66

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD (≤ 9) ☒

or STUDY (> 9) ☐

SELECTION RATIONALE

Concept No. **5.7.5**

Title **VACUUM CLEANING
OF PERSONS & GARMENT**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number
into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	3	9	1
2	Crew Acceptability Factor	3	2	6	1
3	Safety Factor	2	6	12	1
4	Crew Size Acceptability Factor	1	5	5	1
5	Development Risk Factor	3	5	15	1
6	Operability Factor	1	1	1	1
7	Crew Time Factor	2	3	6	1
8	System Compatibility Factor	4	.3	1.2	1

FINAL SELECTION FACTOR

6.9

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}} =$$

55.2

8

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

Concept No. **5.8.1**

Title **MAGNETIZED DINING EQUIPMENT**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		
			1
2	Crew Acceptability Factor		
			1
3	Safety Factor		
			1
4	Crew Size Acceptability Factor		
			1
5	Development Risk Factor		
			1
6	Operability Factor		
			1
7	Crew Time Factor		
			1
8	System Compatibility Factor		
			1

FINAL SELECTION FACTOR **13.8** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{110.8}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. 5.8.2 Title FITTED DETENTS ON ALL EQUIPMENT		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		○ Factor	3	2	6	1
2	Crew Acceptability Factor			3	2	6	1
3	Safety Factor			2	2	4	1
4	Crew Size Acceptability Factor			1	8	8	1
5	Development Risk Factor			3	6	18	1
6	Operability Factor			1	2	2	1
7	Crew Time Factor			2	4	8	1
8	System Compatibility Factor			4	4.5	18	1

FINAL SELECTION FACTOR **8.8** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{70}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

SELECTION RATIONALE

Concept No. **5.8.3**
Title **MECHANICAL HOLD DOWNS**

Select appropriate curve representation. then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used. put 1 in this column; if not used. put in 0.

			Multiplier	Factor	Mult x Factor	Chart Use
1	Gravitational Factor		3	8	24	1
2	Crew Acceptability Factor		3	6	18	1
3	Safety Factor		2	4	8	1
4	Crew Size Acceptability Factor		1	5	5	1
5	Development Risk Factor		3	6	18	1
6	Operability Factor		1	2	2	1
7	Crew Time Factor		2	2	4	1
8	System Compatibility Factor		4	1.2	4.8	1

FINAL SELECTION FACTOR **10.5** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{83.8}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

SELECTION RATIONALE

Concept No. **5.9.1**

Title **NO MAN
RESTRAINT**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	0	0	1
3	Safety Factor		2	0	0	1
4	Crew Size Acceptability Factor		1	1	1	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	0	0	1
7	Crew Time Factor		2	1	2	1
8	System Compatibility Factor		4	4.5	18	1

FINAL SELECTION FACTOR

7.1

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}} =$$

57

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD

(≤ 9)



or

STUDY

(> 9)



Concept No. 5.9.2 Title COCOON OR NET RESTRAINT		SELECTION RATIONALE		Multiplier	Factor	Σ Mult x Factor	Chart Use **
1	Gravitational Factor	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Station G</p> </div> <div style="text-align: center;"> <p>Station G</p> </div> </div> <p>○ Factor</p>		3	5	15	1
2	Crew Acceptability Factor	<p>Crew Acceptability</p>		3	4	12	1
3	Safety Factor	<p>Safety</p>		2	2	4	1
4	Crew Size Acceptability Factor	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Crew Number</p> </div> <div style="text-align: center;"> <p>Crew Number</p> </div> </div>		1	8	8	1
5	Development Risk Factor	<p>Development Time, \$, or Complexity</p>		3	5	15	1
6	Operability Factor	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Reliability</p> </div> <div style="text-align: center;"> <p>Maintainability</p> </div> </div>		1	3	3	1
7	Crew Time Factor	<p>Crew Time</p>		2	2	4	1
8	System Compatibility Factor	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Weight</p> </div> <div style="text-align: center;"> <p>Power</p> </div> <div style="text-align: center;"> <p>Volume</p> </div> </div>		4	2.4	9.6	1

FINAL SELECTION FACTOR

0.9

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}} =$$

71

8

Sum

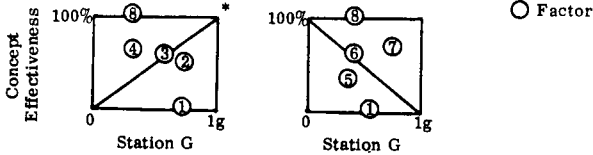
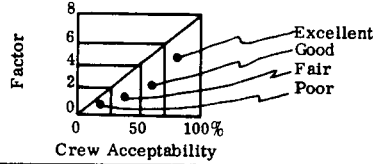
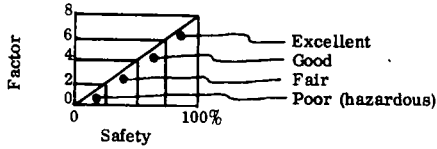
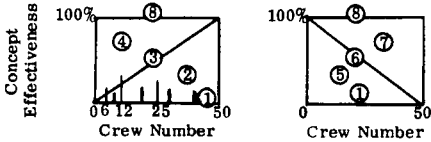
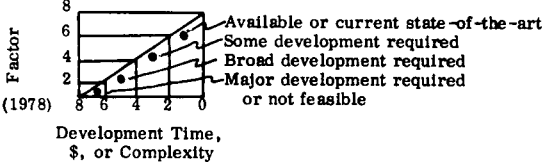
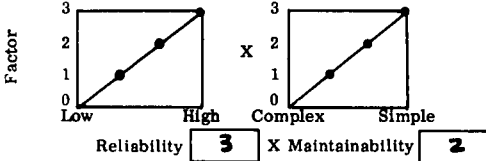
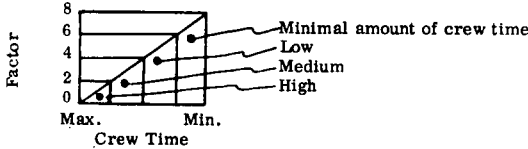
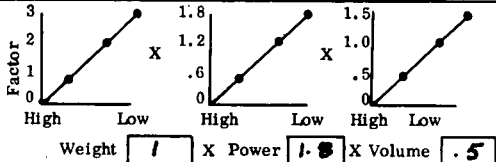
INTERIM STUDY SELECTION: DISCARD (≤ 9) ☒ or STUDY (> 9) ☐

SELECTION RATIONALE

Concept No. **5.9.3**

Title **CHAIR WITH
LAP STRAP**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor				
		3	8	24	1
2	Crew Acceptability Factor				
		3	8	24	1
3	Safety Factor				
		2	6	12	1
4	Crew Size Acceptability Factor				
		1	8	8	1
5	Development Risk Factor				
		3	7	21	1
6	Operability Factor				
		1	6	6	1
7	Crew Time Factor				
		2	5	10	1
8	System Compatibility Factor				
		4	.9	3.6	1

FINAL SELECTION FACTOR

13.6

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}} =$$

109

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)

☐

or

STUDY

(> 9)

☒

Concept No. **5.9.4**
Title **FOOT RESTRAINT**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	1	3	1
2	Crew Acceptability Factor		3	3	9	1
3	Safety Factor		2	2	4	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	0	0	1
7	Crew Time Factor		2	4	8	1
8	System Compatibility Factor		4	8.1	32.4	1

FINAL SELECTION FACTOR **(11.0)** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{88}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

FUNCTIONAL SUBSYSTEM AREA 6.0

PROVIDE FOR CLEAN-UP OF FOOD

Concept No. **6.1.1**
Title **HAND BRUSHING & COLLECTION OF FOOD PARTICLES**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	Chart Use
1	Gravitational Factor		3	2	6	1
2	Crew Acceptability Factor		3	2	6	1
3	Safety Factor		2	2	4	1
4	Crew Size Acceptability Factor		1	5	5	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	3	3	1
7	Crew Time Factor		2	2	4	1
8	System Compatibility Factor		4	3.6	14.4	1

FINAL SELECTION FACTOR **7.9** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{63.4}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☒ or STUDY (> 9) ☐

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **6.1.2**

Title **HAND HELD VACUUM
CLEANER UNIT**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor				
		3	4	12	1
2	Crew Acceptability Factor				
		3	6	18	1
3	Safety Factor				
		2	6	12	1
4	Crew Size Acceptability Factor				
		1	8	8	1
5	Development Risk Factor				
		3	6	18	1
6	Operability Factor				
		1	4	4	1
7	Crew Time Factor				
		2	4	8	1
8	System Compatibility Factor				
		4	2.9	11.6	1

FINAL SELECTION FACTOR

11.4

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}} =$$

91.6

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD ☐ (≤ 9)

or

STUDY ☒ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. 6.1.3 Title GUIDED TRANSPORT VACUUM CLEANER UNIT		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		○ Factor	3	4	12	1
2	Crew Acceptability Factor			3	7	21	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	8	8	1
5	Development Risk Factor			3	6	18	1
6	Operability Factor			1	4	4	1
7	Crew Time Factor			2	6	12	1
8	System Compatibility Factor			4	.7	2.8	1

FINAL SELECTION FACTOR

11.2

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

99.8

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD (≤ 9) ☐

or STUDY (> 9) ☒

SELECTION RATIONALE

Concept No. **6.1.4**

Title **BACK-PACK
VACUUM CLEANER UNIT**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	5	15	1
2	Crew Acceptability Factor		3	2	6	1
3	Safety Factor		2	3	6	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	4	12	1
6	Operability Factor		1	4	4	1
7	Crew Time Factor		2	6	12	1
8	System Compatibility Factor		4	.7	2.8	1

FINAL SELECTION FACTOR

8.2

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

65.8

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)



or

STUDY
(> 9)



SELECTION RATIONALE

Concept No. **6.1.5**

Title **CENTRAL VACUUM
CLEANER SYSTEM**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	4	12	1
2	Crew Acceptability Factor	3	6	18	1
3	Safety Factor	2	5	10	1
4	Crew Size Acceptability Factor	1	7	7	1
5	Development Risk Factor	3	2	6	1
6	Operability Factor	1	0	0	1
7	Crew Time Factor	2	6	12	1
8	System Compatibility Factor	4	.5	2	1

FINAL SELECTION FACTOR

8.4

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

67

8

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☒

or STUDY
(> 9) ☐

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **6.1.6**

Title **AUTOMATIC VACUUM
RETRIEVAL SYSTEM**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	7	21	1
3	Safety Factor		2	6	12	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	2	6	1
6	Operability Factor		1	1	1	1
7	Crew Time Factor		2	8	16	1
8	System Compatibility Factor		4	.3	1.2	1

FINAL SELECTION FACTOR **(9.6)** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{77.2}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

Concept No. **6.1.7**

Title **HAND CLEANING
WITH IMPREGNATED
DISPOSABLE WIPES**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	8	24	1
2	Crew Acceptability Factor		3	5	15	1
3	Safety Factor		2	8	16	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	9	9	1
7	Crew Time Factor		2	2	4	1
8	System Compatibility Factor		4	2.7	10.8	1

FINAL SELECTION FACTOR **13.8** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{110.8}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ (≤ 9) or STUDY ☒ (> 9)

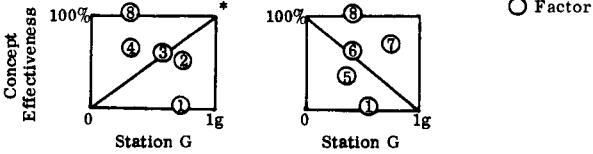
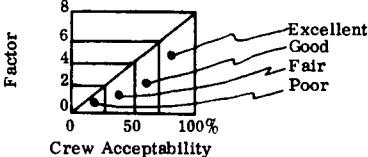
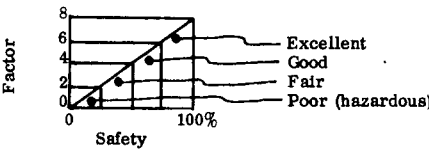
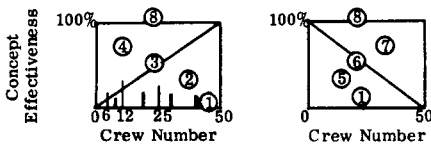
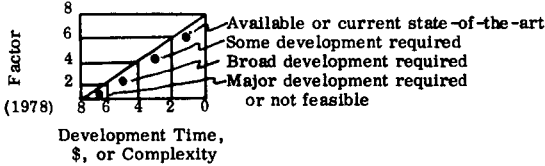
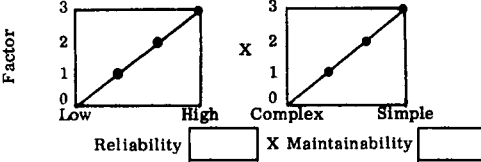
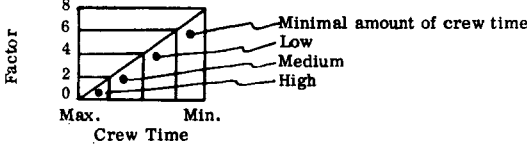
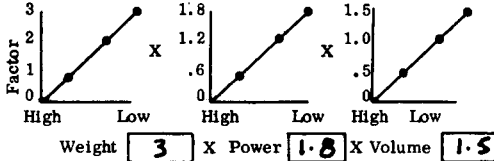
FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **6.1.8**

Title **HAND CLEANING
WITH IMPREGNATED
REUSABLE WIPES**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor 	3	8	24	1
2	Crew Acceptability Factor 	3	5	15	1
3	Safety Factor 	2	8	16	1
4	Crew Size Acceptability Factor 	1	8	8	1
5	Development Risk Factor 	3	8	24	1
6	Operability Factor 	1	4	4	1
7	Crew Time Factor 	2	2	4	1
8	System Compatibility Factor 	4	8.1	32.4	1

FINAL SELECTION FACTOR **15.8** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{126.4}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ (≤ 9) or STUDY ☒ (> 9)

Concept No. **6.1.9**

Title **HAND HELD SCRUBBER
CLEANING UNIT**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
					Chart Use
1	Gravitational Factor				
		3	7	21	1
2	Crew Acceptability Factor				
		3	7	21	1
3	Safety Factor				
		2	6	12	1
4	Crew Size Acceptability Factor				
		1	8	8	1
5	Development Risk Factor				
		3	6	18	1
6	Operability Factor				
		1	4	4	1
7	Crew Time Factor				
		2	6	12	1
8	System Compatibility Factor				
		4	2.9	11.6	1

FINAL SELECTION FACTOR **13.4** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{107.6}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

SELECTION RATIONALE

Concept No. **6.1.10**

Title **GUIDED TRANSPORT
"ASTROVAC" CLEANING
UNIT**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number
into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	4	12	1
2	Crew Acceptability Factor	3	6	18	1
3	Safety Factor	2	6	12	1
4	Crew Size Acceptability Factor	1	8	8	1
5	Development Risk Factor	3	4	12	1
6	Operability Factor	1	2.2	2.2	1
7	Crew Time Factor	2	6	12	1
8	System Compatibility Factor	4	.7	2.8	1

FINAL SELECTION FACTOR

10.0

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}} =$$

79
8

Sum

Sum

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

Concept No. **6.1.11**
Title **BACK-PACK "ASTROVAC" CLEANING UNIT**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		3	5	15	1
2	Crew Acceptability Factor		3	2	6	1
3	Safety Factor		2	3	6	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	4	12	1
6	Operability Factor		1	2.2	2.2	1
7	Crew Time Factor		2	6	12	1
8	System Compatibility Factor		4	.7	2.8	1

FINAL SELECTION FACTOR **8.0** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{64}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☒ or STUDY (> 9) ☐

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **6.2.1**

Title **DISPENSER FOR DISPOSABLE PERSONAL WIPES**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor				
		3	8	24	1
2	Crew Acceptability Factor				
		3	8	24	1
3	Safety Factor				
		2	8	16	1
4	Crew Size Acceptability Factor				
		1	8	8	1
5	Development Risk Factor				
		3	8	24	1
6	Operability Factor				
		1	9	9	1
7	Crew Time Factor				
		2	0	0	0
8	System Compatibility Factor				
		4	2.7	10.8	1

FINAL SELECTION FACTOR

16.5

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

115.8

7

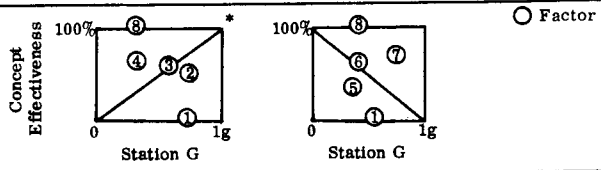
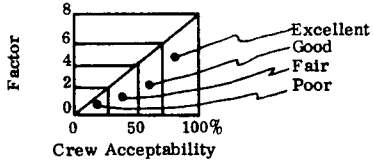
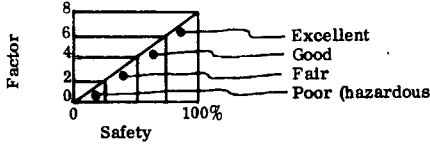
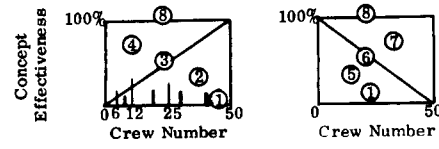
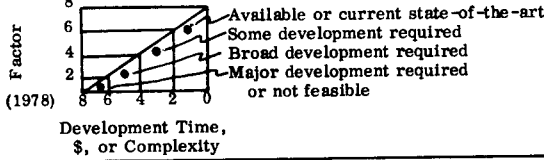
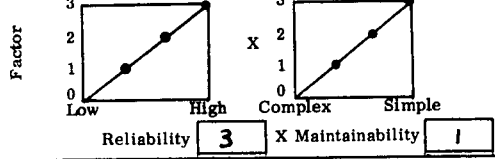
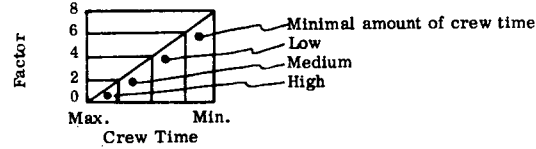
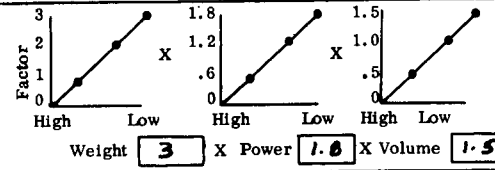
Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or STUDY
(> 9) ☒

Concept No. 6.2.2 Title DISPENSER FOR REUSABLE PERSONAL WIPES		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					
1	Gravitational Factor			3	8	24	1
2	Crew Acceptability Factor			3	8	24	1
3	Safety Factor			2	8	16	1
4	Crew Size Acceptability Factor			1	8	8	1
5	Development Risk Factor			3	8	24	1
6	Operability Factor			1	3	3	1
7	Crew Time Factor			2	0	0	0
8	System Compatibility Factor			4	8.1	32.4	1

FINAL SELECTION FACTOR **18.8** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{131.4}{7}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

SELECTION RATIONALE

Concept No. **6.2.3**

Title **DISPENSER FOR IMPREGNATED PERSONAL CLEANSING WIPES**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor	3	8	24	1
2	Crew Acceptability Factor	3	8	24	1
3	Safety Factor	2	8	16	1
4	Crew Size Acceptability Factor	1	8	8	1
5	Development Risk Factor	3	8	24	1
6	Operability Factor	1	9	9	1
7	Crew Time Factor	2	0	0	0
8	System Compatibility Factor	4	2.7	10.8	1

FINAL SELECTION FACTOR

16.5

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

115.8

7

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or

STUDY
(> 9) ☒

Concept No. 6.2.4 Title RECEPTACLE FOR TEMPORARY RETENTION OF SOILED WIPES		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					
1	Gravitational Factor		○ Factor	3	8	24	1
2	Crew Acceptability Factor			3	6	18	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	8	8	1
5	Development Risk Factor			3	8	24	1
6	Operability Factor			1	9	9	1
7	Crew Time Factor			2	0	0	
8	System Compatibility Factor			4	3.6	14.4	1

FINAL SELECTION FACTOR **15.6** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{109.4}{7}$

INTERIM STUDY SELECTION: DISCARD ☐ (≤ 9) or STUDY ☒ (> 9)

SELECTION RATIONALE

Concept No. **6.2.5**

Title **DISPOSABLE COVERS FOR DINING TABLES**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor				
		3	2	6	1
2	Crew Acceptability Factor				
		3	6	18	1
3	Safety Factor				
		2	6	12	1
4	Crew Size Acceptability Factor				
		1	8	8	1
5	Development Risk Factor				
		3	8	24	1
6	Operability Factor				
		1	9	9	1
7	Crew Time Factor				
		2	0	0	0
8	System Compatibility Factor				
		4	2.7	10.8	1

FINAL SELECTION FACTOR

(12.5)

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

87.8

7

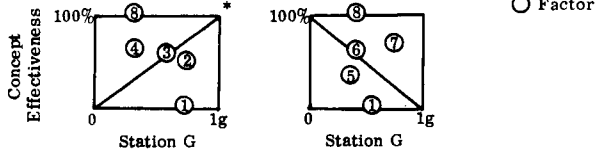
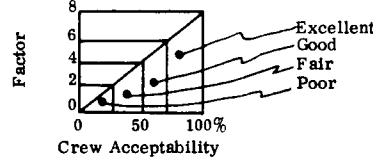
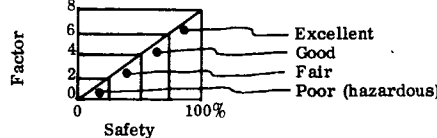
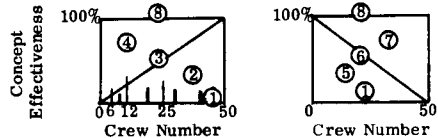
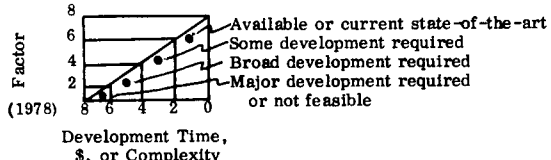
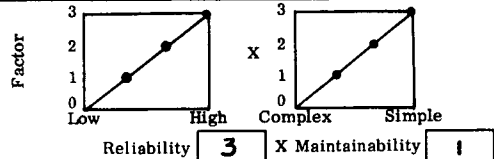
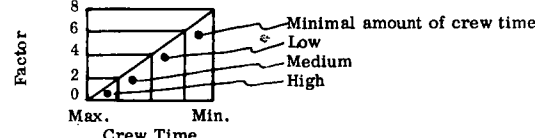
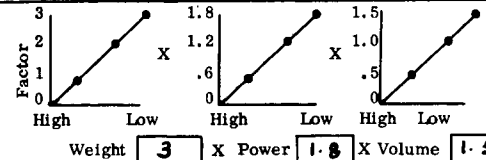
Sum

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INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☒

or STUDY
(> 9) ☐

Concept No. 6.2.6 Title REUSABLE COVERS FOR DINING TABLES		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					
1	Gravitational Factor			3	2	6	1
2	Crew Acceptability Factor			3	6	18	1
3	Safety Factor			2	6	18	1
4	Crew Size Acceptability Factor			1	8	8	1
5	Development Risk Factor			3	8	24	1
6	Operability Factor			1	3	3	1
7	Crew Time Factor			2	0	0	0
8	System Compatibility Factor			4	8.1	32.4	1

FINAL SELECTION FACTOR **(14.8)** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{103.4}{7}$

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

SELECTION RATIONALE

Concept No. **6.2.7**

Title **RETAINER FOR
RESIDUES OF AFTER -
DINNER SMOKING**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number
into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		3			
2	Crew Acceptability Factor		3			
3	Safety Factor		2			
4	Crew Size Acceptability Factor		1			
5	Development Risk Factor		3			
6	Operability Factor		1			
7	Crew Time Factor		2			
8	System Compatibility Factor		4			

FINAL SELECTION FACTOR = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = Sum

INTERIM STUDY SELECTION: DISCARD ☒ (≤ 9) or STUDY ☐ (> 9)

NOTE: NO SCORING ASSESSMENT ATTEMPTED

SELECTION RATIONALE

Concept No. **6.2.8**

Title **HAND CARRIAGE
FOR RETURN OF
MEAL TRAYS.**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	4	12	1
3	Safety Factor		2	4	8	1
4	Crew Size Acceptability Factor		1	7	7	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	9	9	1
7	Crew Time Factor		2	5	10	1
8	System Compatibility Factor		4	4.5	18	1

FINAL SELECTION FACTOR **12.5** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{100}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

SELECTION RATIONALE

Concept No. **6.2.9**

Title **MEAL TRAY GUIDED
RETURN RAIL SYSTEM**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	8	24	1
2	Crew Acceptability Factor	3	7	21	1
3	Safety Factor	2	6	12	1
4	Crew Size Acceptability Factor	1	8	8	1
5	Development Risk Factor	3	6	18	1
6	Operability Factor	1	3.8	3.8	1
7	Crew Time Factor	2	4	8	1
8	System Compatibility Factor	4	1.8	7.2	1

FINAL SELECTION FACTOR

12.7

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

102

8

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or STUDY
(> 9) ☒

SELECTION RATIONALE

Concept No. **6.2.10**

Title **MEAL TRAY GUIDED
RETURN CARRIER UNIT**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	8	24	1
2	Crew Acceptability Factor		3	6	18	1
3	Safety Factor		2	6	12	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	6	18	1
6	Operability Factor		1	6.3	6.3	1
7	Crew Time Factor		2	3	6	1
8	System Compatibility Factor		4	1.2	4.8	1

FINAL SELECTION FACTOR **12.1** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{97.1}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ (≤ 9) or STUDY ☒ (> 9)

SELECTION RATIONALE

Concept No. **G.3.1**

Title **TEMPORARY REUSABLE
SOILED WIPES STORAGE
UNIT**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	8	24	1
2	Crew Acceptability Factor	3	6	18	1
3	Safety Factor	2	6	12	1
4	Crew Size Acceptability Factor	1	8	8	1
5	Development Risk Factor	3	8	24	1
6	Operability Factor	1	9	9	1
7	Crew Time Factor	2	4	8	1
8	System Compatibility Factor	4	3.6	14.4	1

FINAL SELECTION FACTOR

14.7

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

117.4

8

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or

STUDY
(> 9) ☒

Concept No. 6.3.2 Title TEMPORARY DEBRIS COLLECTION/STORAGE UNIT		SELECTION RATIONALE Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		○ Factor	3	8	24	1
2	Crew Acceptability Factor			3	6	18	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	8	8	1
5	Development Risk Factor			3	8	24	1
6	Operability Factor			1	9	9	1
7	Crew Time Factor			2	3	6	1
8	System Compatibility Factor			4	3.6	14.4	1

FINAL SELECTION FACTOR **14.4** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{115.4}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

SELECTION RATIONALE

Concept No. **6.3.3**

Title **COMBINATION DEBRIS
COLLECTOR/SHREDDER**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls,
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor	3	4	12	1
2	Crew Acceptability Factor	3	6	18	1
3	Safety Factor	2	6	12	1
4	Crew Size Acceptability Factor	1	4	4	1
5	Development Risk Factor	3	4	12	1
6	Operability Factor	1	3	3	1
7	Crew Time Factor	2	4	8	1
8	System Compatibility Factor	4	.8	3.2	1

FINAL SELECTION FACTOR

(9.0)

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

72.2

8

INTERIM STUDY SELECTION:

DISCARD
(≤ 9)

☐

or

STUDY

(> 9)

☒

Concept No. 6.3.4 Title COMBINATION DEBRIS COLLECTOR/COMPACTOR		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	8	24	1	
2	Crew Acceptability Factor		3	6	18	1	
3	Safety Factor		2	6	12	1	
4	Crew Size Acceptability Factor		1	4	4	1	
5	Development Risk Factor		3	4	12	1	
6	Operability Factor		1	3	3	1	
7	Crew Time Factor		2	4	8	1	
8	System Compatibility Factor		4	.8	3.2	1	

FINAL SELECTION FACTOR **10.5** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{84.2}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **6.3.5**

Title **COMBINATION DEBRIS
COLLECTOR/SHREDDER
COMPACTOR**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor	3	4	12	1
2	Crew Acceptability Factor	3	6	18	1
3	Safety Factor	2	6	12	1
4	Crew Size Acceptability Factor	1	4	4	1
5	Development Risk Factor	3	4	12	1
6	Operability Factor	1	1	1	1
7	Crew Time Factor	2	4	8	1
8	System Compatibility Factor	4	.15	.6	1

FINAL SELECTION FACTOR

8.4

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

67.6

8

Sum
Sum

INTERIM STUDY SELECTION: DISCARD ☒ or STUDY ☐
(≤ 9) (> 9)

NOTE: ADDITIONAL COMPLEXITY FOR SHREDDING IS NOT WARRANTED; COMPACTION ALONE SHOULD SUFFICE.

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

Concept No. 6.3.6		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	** Chart Use
Title HAND CARRIAGE FOR TRANSPORT OF DEBRIS		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					
1	Gravitational Factor	<p>Station G</p>		3	4	12	1
2	Crew Acceptability Factor	<p>Crew Acceptability</p>		3	4	12	1
3	Safety Factor	<p>Safety</p>		2	4	8	1
4	Crew Size Acceptability Factor	<p>Crew Number</p>		1	7	7	1
5	Development Risk Factor	<p>Development Time, \$, or Complexity</p>		3	8	24	1
6	Operability Factor	<p>Reliability 3 X Maintainability 3</p>		1	9	9	1
7	Crew Time Factor	<p>Crew Time</p>		2	2	4	1
8	System Compatibility Factor	<p>Weight 3 X Power 1.8 X Volume 1.5</p>		4	8.1	32.4	1

FINAL SELECTION FACTOR **13.5** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{108.4}{8}$

INTERIM STUDY SELECTION: DISCARD (≤ 9) ☐ or STUDY (> 9) ☒

SELECTION RATIONALE

Concept No. 6.3.7 Title MANUAL MOVEMENT OF DEBRIS TRANSPORTER		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor		Factor	3	8	24	1
2	Crew Acceptability Factor		Factor	3	6	18	1
3	Safety Factor		Factor	2	6	12	1
4	Crew Size Acceptability Factor		Factor	1	8	8	1
5	Development Risk Factor		Factor	3	6	18	1
6	Operability Factor		Factor	1	3.8	3.8	1
7	Crew Time Factor		Factor	2	4	8	1
8	System Compatibility Factor		Factor	4	1.8	7.2	1

FINAL SELECTION FACTOR

12.4

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$$

99

8

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD ☐ (≤ 9)

or

STUDY ☒ (> 9)

Concept No. **6.3.8**

Title **AUTOMATIC MOVEMENT OF DEBRIS TRANSPORTER**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	7	21	1
2	Crew Acceptability Factor		3	8	24	1
3	Safety Factor		2	6	12	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	4	12	1
6	Operability Factor		1	1	1	1
7	Crew Time Factor		2	8	16	1
8	System Compatibility Factor		4	.7	2.8	1

FINAL SELECTION FACTOR **(12.1)** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$ = $\frac{96.8}{8}$

INTERIM STUDY SELECTION: DISCARD ☒ or STUDY ☐

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **6.3.9**

Title **AUTOMATIC DEBRIS
COLLECTOR/SHREDDER/
DISPOSER**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number
into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	5	15	1
2	Crew Acceptability Factor		3	8	24	1
3	Safety Factor		2	2	4	1
4	Crew Size Acceptability Factor		1	7	7	1
5	Development Risk Factor		3	2	6	1
6	Operability Factor		1	.5	.5	1
7	Crew Time Factor		2	4	8	1
8	System Compatibility Factor		4	.15	.6	1

FINAL SELECTION FACTOR

8.1

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}} =$$

65.1

8

Sum

Sum

INTERIM STUDY SELECTION: DISCARD ☒ or STUDY ☐

Concept No. **6.3.10**

Title **HAND-WASHING SINK
IN GALLEY**

SELECTION RATIONALE

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	8	24	1
3	Safety Factor		2	6	12	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	6	18	1
6	Operability Factor		1	1	1	1
7	Crew Time Factor		2	6	12	1
8	System Compatibility Factor		4	1.8	7.2	1

FINAL SELECTION FACTOR

(11.8)

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

94.2

8

Sum
Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or STUDY
(> 9) ☒

SELECTION RATIONALE

Concept No. **6.3.11**

Title **COMBINATION GALLEY
SINK FOR HAND AND UTENSIL
WASHING**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

		Multiplier	Factor	Mult x Factor	**
1	Gravitational Factor	3	4	12	1
2	Crew Acceptability Factor	3	4	12	1
3	Safety Factor	2	6	12	1
4	Crew Size Acceptability Factor	1	7	7	1
5	Development Risk Factor	3	6	18	1
6	Operability Factor	1	1	1	1
7	Crew Time Factor	2	2	4	1
8	System Compatibility Factor	4	1.5	6	1

FINAL SELECTION FACTOR

(9.0)

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}} =$$

72
8

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or STUDY
(> 9) ☒

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **6.3.12**

Title **HAND DRYING OF REUSABLE UTENSILS**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	2	6	1
2	Crew Acceptability Factor		3	1	3	1
3	Safety Factor		2	4	8	1
4	Crew Size Acceptability Factor		1	5	5	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	9	9	1
7	Crew Time Factor		2	0	0	1
8	System Compatibility Factor		4	3.6	14.4	1

FINAL SELECTION FACTOR **(8.7)** = $\frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}} = \frac{69.4}{8}$

INTERIM STUDY SELECTION: DISCARD ☐ or STUDY ☒

MAY BE NECESSARY TO DRY UTENSILS BY HAND UNDER CERTAIN COMPELLING CONDITIONS; THEREFORE RETAIN FOR STUDY, OVERRIDING SELECTION RATIONALE SCORE

SELECTION RATIONALE

Concept No. **6.3.13**

Title **COMBINATION
AUTOMATIC DISHWASHER
DRYER**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	4	12	1
2	Crew Acceptability Factor		3	8	24	1
3	Safety Factor		2	7	14	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	2	6	1
6	Operability Factor		1	1	1	1
7	Crew Time Factor		2	6	12	1
8	System Compatibility Factor		4	.09	.4	1

FINAL SELECTION FACTOR

9.7

$$= \frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}} =$$

77.4

8

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or

STUDY
(> 9) ☒

SELECTION RATIONALE

Concept No. **6.3.14**

Title **DISPENSER FOR
DISPOSABLE GALLEY
UTILITY WIPES**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	** Chart Use
1	Gravitational Factor		3	8	24	1
2	Crew Acceptability Factor		3	8	24	1
3	Safety Factor		2	8	16	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	9	9	1
7	Crew Time Factor		2	0	0	0
8	System Compatibility Factor		4	2.7	10.8	1

FINAL SELECTION FACTOR **16.5** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{115.8}{7}$

INTERIM STUDY SELECTION: DISCARD ☐ (≤ 9) or STUDY ☒ (> 9)

FAIRCHILD HILLER
REPUBLIC AVIATION DIVISION

SELECTION RATIONALE

Concept No. **6.3.15**

Title **DISPENSER FOR REUSABLE GALLEY UTILITY WIPES**

Select appropriate curve representation, then use corresponding factor.
* Estimate shape of curve and use the corresponding section number into which the curve falls.
** Chart use: If chart is used, put 1 in this column; if not used, put in 0.

			Multiplier	Factor	Mult x Factor	**
						Chart Use
1	Gravitational Factor		3	8	24	1
2	Crew Acceptability Factor		3	8	24	1
3	Safety Factor		2	8	16	1
4	Crew Size Acceptability Factor		1	8	8	1
5	Development Risk Factor		3	8	24	1
6	Operability Factor		1	3	3	1
7	Crew Time Factor		2	0	0	0
8	System Compatibility Factor		4	8.1	32.4	1

FINAL SELECTION FACTOR

18.8

$$= \frac{\sum (\text{Mult} \times \text{Factor})}{\text{Number of Charts Used}}$$

131.4

7

Sum

Sum

INTERIM STUDY SELECTION:

DISCARD
(≤ 9) ☐

or STUDY
(> 9) ☒

Concept No. 6.3.16 Title STOWAGE OF CLEANING EQUIPMENT		SELECTION RATIONALE		Multiplier	Factor	Mult x Factor	**
		Select appropriate curve representation, then use corresponding factor. * Estimate shape of curve and use the corresponding section number into which the curve falls. ** Chart use: If chart is used, put 1 in this column; if not used, put in 0.					
1	Gravitational Factor			3	4	12	1
2	Crew Acceptability Factor			3	6	18	1
3	Safety Factor			2	6	12	1
4	Crew Size Acceptability Factor			1	8	8	1
5	Development Risk Factor			3	8	24	1
6	Operability Factor			1	6.3	6.3	1
7	Crew Time Factor			2	0	0	0
8	System Compatibility Factor			4	3.6	14.4	1

FINAL SELECTION FACTOR **13.5** = $\frac{\sum (\text{Mult x Factor})}{\text{Number of Charts Used}}$ = $\frac{94.7}{7}$

INTERIM STUDY SELECTION: DISCARD ☐ (≤ 9) or STUDY ☒ (> 9)

FUNCTIONAL SUBSYSTEM AREA 7.0

PROVIDE FOR RECORDING OF FOOD

FUNCTIONAL SUBSYSTEM
AREA 7.0

No selection rationale sheets were prepared for this functional subsystem area. Requirements are presented in Final Report, Volume I, Section III, paragraph 7.0.